THE LANCET.

No. 4749. LONDON, SATURDAY, SEPTEMBER 5, 1914. Vol. CLXXXVII.

CONTENTS.

The whole of the literary matter in THE LANCET is copyright.

LETTSOMIAN LECTURES on Dysentery. Delivered before the Medical Society of London, 1914, by F. M. SANDWITH, M.D. Durh., F.R.C.P. Lond., Gresham Professor of Physic; Lecturer on Tropical Diseases, St. Thomas's Hospital, &c.—Lecture I. 637

ORIGINAL ARTICLES.

Bullet Wounds in War. By W. G. TOTTENHAM POSNETT, F.R.C.S. Irel. 642

On some Signs and Symptoms of Hypothyroidism in School Children. By J. LAWSON DICK, M.D. Edin., F.R.C.S. Eng. 644

BRITISH MEDICAL ASSOCIATION.

EIGHTY-SECOND ANNUAL MEETING AT ABERDEEN.

Proceedings in the Sections:

Surgery: Mr. W. G. Spencer on the Etiology and Treatment of Carcinoma of the Tongue; Prof. J. Kay Jamieson and Mr. J. F. Dobson on the Lymphatics of the Tongue; Mr. Sidney A. Boyd on the Newer Indications for Removal of the Spleen; Mr. Robert Jones and others on the Surgical Treatment of Arthritic Deformities; Mr. H. S. Rowell on the Mechanics of the Human Foot, with Special Reference to Flat-foot; Mr. H. M. W. Gray and others on Anoci-association, or the Evolution of the Shockless Operation; Mr. A. Fullerton on the Treatment of Vesical Papillomata by the High Frequency Current; Mr. Max Page on the Treatment of Certain Cases of Appendix Abscess; Mr. D. P. D. Wilkie on Acute Appendicitis and Appendicular Obstruction 646

Neurology and Psychological Medicine: Dr. James Neil and others on the Diagnosis and Treatment of Parenchymatous Syphilis; Dr. C. G. Jung and others on the Significance of the Unconscious in Psycho-pathology; Dr. Kinnier Wilson on the Temporo-sphenoidal Forms of Idiopathic Epilepsy; Dr. Aldren Turner on Epilepsy and Brain Tumours 649

Pathological Museum: Tropical Medicine; Section of Laryngology, Rhinology, and Otology; Ductless Glands; Circulatory System; Section of Recent Research; Section of Dermatology; Section of Radiology and Electro-therapeutics; Section of Surgery; Section of Anatomy; Historical Section 651

NEW INVENTIONS.

Central-Eyed Needles.—(*Illustrated*) 657

LEADING ARTICLES.

THE NATIONAL SPIRIT 659

PHYSIQUE OF THE RECRUIT 659

ANNOTATIONS.

Nutrition 661

The Treatment of Imperfectly Descended Testicles 661

VITAL STATISTICS:

Health of English Towns 663

Health of Scotch Towns 664

Health of Irish Towns 665

Vital Statistics of London during July, 1914 665

Analysis of Sickness and Mortality Statistics in London during July, 1914 666

SPECIAL ARTICLES.

The Report of the Select Committee of the House of Commons on Patent Medicines.—(*To be continued*) 653

Asylum Reports 658

The Services: Royal Navy Medical Service.—Royal Naval Volunteer Reserve.—Royal Army Medical Corps.—Special Reserve of Officers.—Territorial Force.—Territorial Force Reserve.—Order of the Hospital of St. John of Jerusalem in England 662

Italy: The Treatment of Syphilis.—Mediterranean Fever in Italy.—Carnegie Awards to Medical Men 667

THE WAR.

Casualties to Officers of the Royal Army Medical Corps ... 672

The Return of the Wounded 672

The French Provision for Sick and Wounded 672

Northern Military General Hospitals 673

Coöperation Between Civil and Military Sanitary Services 674

The Chadwick Trust and the War 674

Edinburgh and Leith Practitioners 674

Order of the Hospital of St. John of Jerusalem in England 675

The School Medical Service during the War 675

Officers of Local Authorities and the War 675

Manchester Medical Arrangements 675

Canadian Loyalty 675

The Working of Voluntary Aid Detachments 675

The Dearth of Revolvers and the War 675

An Allied Forces Base Hospital 676

The War and National Insurance 676

The National Relief Fund 676

War Maps 676

Rations of War Prisoners 676

Free Dentistry for Soldiers 676

CORRESPONDENCE.

The Middle-aged Man and the War 667

Gun Deafness and its Prevention (Dr. Athole Ross) 668

Lysol Made in England (Chas. Zimmermann and Co., Chemicals, Ltd.) (Mr. O. A. Elias) 668

"Encyclopædia Medica" (W. Green and Son, Limited) (Mr. C. E. Green) 668

Wanted, an Explanation (Dr. James Gilroy) 668

Hæmorrhagic Typhoid Fever and the Administration of Quinine 669

Fibrositis and Streptococcal Infections (Mr. A. White Robertson) 669

The Plea for Immediate Operation in Appendicitis (Dr. John O'Conor) 670

A Swiss Firm (The Hoffmann-la Roche Chemical Works, Ltd.) 671

Custom and Courtesy (Mr. Henry Bazett) 680

Kilometres and Miles 680

MEDICAL NEWS.

Medical Missionary Work 658

Opening of the Medical Schools 658

Royal Earlswood Institution, Redhill 671

Crystal Palace as a Hospital 671

Donations and Bequests 671

University of London: Pass-list 676

Guy's Hospital 677

London School of Tropical Medicine 677

St. Bartholomew's Hospital Medical School 677

St. George's Hospital Medical School 677

PARLIAMENTARY INTELLIGENCE.

Notes on Current Topics 677

House of Commons 677

Books, &c., received 678

Appointments 678

Vacancies 678

Births, Marriages, and Deaths 679

Notes, Short Comments, and Answers to Correspondents ... 680

Medical Diary 681

FOR INDEX TO ADVERTISEMENTS SEE PAGES 2 & 4.

Price 6d.; by post 7d.

THE TERRITORIAL MEDICAL SERVICE

By a Special Correspondent of THE LANCET.

With Preface by Sir ALFRED H. KEOGH, K.C.B., late Director-General, Army Medical Service.

REPRINTED FROM THE LANCET, July 31st, &c., 1909.

The Subjects dealt with include: Organization Duties in Camp—Selection of Sites for Camps—Selection of Water Supplies for Camps: Filters—Sanitary Upkeep of Camps: Latrines; Urinals; Cooking-places; Refuse Disposal—Medical Examination of Recruits; Diseases of the Heart; Teeth; Varicocele; Flat Feet; Syphilis—Selection of Men for Active Service; Age; Previous Medical History and its Bearing; Physical Examination—Some Medical Aspects of Marching—Medical Aspect of the Food Supply of the Soldier.

THE LANCET Offices, 423 & 424, Strand, W.C.; and 1 & 2, Bedford-street, adjoining.

INDEX

MEDICAL AND OTHER BOOKS AND PUBLICATIONS

ALLEN & UNWIN:— PAGE
Mercier .... Text Book of Insanity and other Mental Diseases .. 5

BAILLIERE, TINDALL & COX:—
Bigg ..... Indigestion, Constipation—Liver Disorder 5
Blumfeld .. Anæsthetics .. Cover 1
Clarke, E. .. Errors of Accommodation and Refraction of the Eye Cover 1
De Méric .. English-French and French-English Dictionary of Medical Terms ..... Cover 1
Lake ..... Diseases of the Ear Cover 1

CASSELL & CO.:—
Morris, Sir M..... Diseases of the Skin 5

CHURCHILL, J. & A.:—
Fenwick .. Urinary Tuberculosis Cover 1

FROWDE AND HODDER & STOUGHTON:— PAGE
McCann .. Cancer of the Womb, &c. ..... Cover 1
Waring .... Surgical Diseases of the Gall Bladder, Bile Ducts, & Liver. 6
" .... Manual of Operative Surgery 6

GRIFFIN & CO.:—
Davies & Melville.. Hygiene 5
Saundby .. Diseases of Digestive System 5

LONGMANS, GREEN & CO.:—
Hare ..... Food Factor in Disease ..... Cover 1
Stevenson.. Wounds in War: the Mechanism of their Production & their Treatment .. Cover 1
Watson-Williams. Rhinology .... Cover 1

MACMILLAN & CO.:—
Ballance .. Cerebral Decompression in Ordinary Practice 6

MACMILLAN—(Continued). PAGE
Lockwood.. The Surgery and Pathology of Appendicitis 6

MEDICAL PUBLISHING CO.:—
Lane, Sir A..... Operative Treatment of Fractures. Cover 1

MURRAY:—
Brunton, Sir T. L... Therapeutics of the Circulation.. Cover 1

NISBET & CO.:—
Romer & Creasy .. Bonesetting and the Treatment of Painful Joints.... Cover 1

SAUNDERS COMPANY:—
Crandon & Ehrenfried Surgical After-Treatment 3
DaCosta .. Modern Surgery 3
Dann-reuther .. Minor and Emergency Surgery 3
Fowler .... Operating Room and the Patient 3

SAUNDERS CO.—(Continued). PAGE
Keefer .... Military Hygiene 3
Keefer's Military Hygiene.. Cover 1

SCIENTIFIC PRESS:—
Gunson .... Standard Prescriptions for Insurance Practice 6

THE LANCET:—
The Territorial Medical Service .. 1

WRIGHT & SONS (Bristol):—
Owen ..... Appendicitis: A Plea for Immediate Operation 5
Pappenheim Clinical Examination of the Blood..... 5
Porter..... Throat, Nose, and Ear ..... Cover 1

MEDICAL LIBRARIES, &c.:—
Behnke—Stammering 6
Ketley—Stammering 6
Matthews Bros.—Wood: Application of Trusses 5

OFFICIAL AND GENERAL ANNOUNCEMENTS

APPOINTMENTS VACANT:—
Birmingham Union—Dudley-road Infirmary 54
Birmingham Union—Erdington Infirmary and Cottage Homes .. 54
Birmingham Union—Selly Oak Infirmary 54
Bristol Royal Hospital for Sick Children and Women 57
Bristol Royal Infirmary 55
Cancer Hospital, Fulham-road..... 55
Cheshire Education Committee .. 56
Children's Hospital, Sheffield 56
City of Sheffield Education Committee 56
County Borough of Bootle 57
County Borough of Eastbourne .. 54
Crichton Royal Mental Hospital, Dumfries 57
Cumberland Infirmary, Carlisle .. 55
Derbyshire Hos. for Sick Children, Derby 55
Dumfries and Galloway Royal Infirmary 57
Durham County Hospital 55
Elder Dempster & Co., Liverpool.. 57
Essex County Hospital, Colchester 54
General Hospital, Nottingham..... 56
Great Yarmouth Hospital 54
Greenwich Union Infirmary 55
Hamlet of Mile End Old Town Infirmary 57
Hampstead General and North-West London Hospital..... 56
Herefordshire General Hospital ... 54
Horton Infirmary, Banbury 53
Hull Royal Infirmary 54
Hulme Dispensary, Manchester .. 53
Kensington Workhouse and Infirmary 56
Kent Education Committee 55
King Edward Memorial Hospital, Ealing 55
Lambeth Parish Infirmary Workhouses 54
Lancashire County Asylum, Winwick 54
Leicester Royal Infirmary 55
London County Council 55
Manchester Northern Hospital for Women and Children 53
Manchester Royal Eye Hospital .. 57
New Hospital for Women, Euston-road 56
North Riding Infirmary, Middlesbrough 56
North Riding of Yorkshire Education Committee 54
Nottingham City Asylum..... 54
Nottingham General Dispensary.. 55
Parish of Harrie 57
Parish of St. Giles, Camberwell, Infirmary 57
Peterborough Infirmary 57
Poplar Hospital for Accidents 55
Portsmouth Corporation Mental Hospital 57
Preston Royal Infirmary 55
Queen Charlotte's Lying-in Hospital 54, 59
Rotherham Hospital 54
Royal Albert Hospital, Devonport 55
Royal Asylum, Morningside, Edinburgh 57
Royal Berkshire Hospital, Reading 55
Royal Cornwall Infirmary, Truro.. 54
Royal Devon and Exeter Hospital 57
Royal Halifax Infirmary 54
Royal London Ophthalmic Hospital 55

APPOINTMENTS—(Continued).
Royal Salop Infirmary, Shrewsbury 57
Royal Southern Hospital, Liverpool 53
Royal Surrey County Hospital, Guildford 56
Royal Victoria Hospital, Dover .. 55
Royal Waterloo Hospital for Children and Women 53
St. Mary, Islington, Infirmary 57
St. Mary's Hospital for Women and Children, Plaistow 56
St. Pancras Infirmary, &c. 59
Salford Royal Hospital 56
Salford Union Infirmary 56
Salisbury General Infirmary 55
Scarborough Hospital and Dispensary 53
Sherburn Hospital, near Durham. 54
Surrey County Asylum, Mersthan 55
University of Liverpool, Faculty of Medicine 54
University of Sheffield 54
Victoria Children's Hospital, Hull 56
Welsh Hospital for the Expeditionary Force 55
West Bromwich and District Hospital 55
West Ham and Eastern General Hospital 53
West Kent General Hospital, Maidstone 55
West London Hospital, Hammersmith-road 56
Wolverhampton and Staffordshire General Hospital 56
Women's Hospital for Children, Harrow-road 56
Woolwich Tuberculosis Dispensary 57

ASSISTANCIES, MEDICAL:—
Arnold & Sons, Giltspur-street.... 57
Books, Notting Hill Gate 58
Lee & Martin, Birmingham 57
No. 154, L.O., Strand 58
No. 156, L.O., Strand 58
No. 158, L.O., Strand 58
No. 159, L.O., Strand 58
No. 160, L.O., Strand 58
No. 161, L.O., Strand 58
Scholastic, Clerical, &c., Association, Craven street 57
Turner 58

ASYLUMS, HOMES &c.:—
Ashwood House, Kingswinford .. 47
Barnsley Hall, Bromsgrove..... 47
Barnwood House Hospital 46
Bishopstone House, Bedford..... 47
Bootham Park, York 47
Brunton House, Lancaster 46
Buntingford House Retreat, Buntingford 50
Camberwell House, Peckham-road 49
Cheadle Royal..... 48
City of London Mental Hospital, Stone..... 59
Clarence Lodge, Clapham Park .. 47
Colthurst House, Alderley Edge .. 46
Coppice, The, Nottingham 48
Dalrymple House, Rickmansworth 50
David Lewis Colony, Alderley Edge 47
Duff House, Banff..... 51
Farnham House, Dublin 50
Ghyllwoods 50
Grove House, Church Stretton.... 48
Grove, The, Catton, Norwich..... 48
Haslemere Nursing Home 53

ASYLUMS—(Continued).
Haydock Lodge, Newton-le-Willows 50
Heigham Hall, Norwich 48
Home for Epileptics, Maghull 47
Invermith Sanatorium, Colinsburgh 51
Kingsdown House, Box..... 47
Littleton Hall, Brentwood 53
London Fever Hospital..... 48
Malling Place, Kent..... 48
Maryville, Dublin 50
Melbourne House, Leicester 46
Mendip Hills Sanatorium 52
Middleton Hall, Co. Durham..... 47
Moat House, Tamworth 48
Newlands House, Tooting Bec Common 47
Newmains Retreat, Lanarkshire.. 51
New Saughton Hall, Polton, Midlothian 49
Nordrach-on-Dee, Banchory 52
Northumberland House, Finsbury Park 48
Northwoods House, Winterbourne 49
Norwood Sanatorium, Ltd..... 50
No. 828, L.O., Strand 53
Ochil Hills Sanatorium..... 52
Otto House, West Kensington 46
Peckham House..... 49
Pendyffryn Hall Sanatorium, Norbrach-in-Wales 51
Pinewood Sanatorium, Wokingham 52
Plympton House, Plympton 48
Portsmouth Corporation Mental Hospital 47
Poultney, Tarkastad, South Africa 55
Royal Earlswood Institution for Mental Defectives 50
St. Andrew's Hospital, Dollis Hill 53
St. Andrew's Hospital, Northampton 48
St. George's Hospital, Burgess Hill 47
St. Luke's Hospital for Mental Diseases 47
Springfield House Private Asylum, Bedford 47
Stretton House, Church Stretton. 48
The General Manager, Cravenstreet 53
The Grange, near Rotherham 46
Vale of Clwyd Sanatorium 51
Warneford Asylum, Oxford..... 47
Wye House, Buxton 48

FINANCIAL, &c.:—
Equitable Reversionary Interest Society..... 44

HEALTH RESORTS, BATHS, &c.:—
Alexandra Therapeutic Institute.. 52
Cheltenham Spa 52
Droitwich 52
Smedley's, Matlock 53

HOTELS:—
Hotel Windsor 53

HOUSE & ESTATE AGENTS:—
Bedford & Co., Wigmore-street.... 58
Elliott, Son & Boyton, Vere-street. 58
Ley Clark, Wimpole-street 58

LIFE & FIRE ASSURANCES, &c.:—
General Life Assurance Co. 44
Medical, Sickness and Accident Society..... 32
National Provident Institution .. 44
Prudential 44

MASSAGE:—
London School of Massage 48

MEDICAL ACCOUNTANTS, &c.:—
Turner 58

MEDICAL AGENTS:—
Fieldhall, Limited 59
Johnson 59
Manchester Clerical, &c., Association..... 59
Medical Agency 59
Needes, Herbert 59
Needes, J. C. 59
Peacock & Hadley 59
Scholastic, Clerical, &c., Association 60
Turner 59

MEDICAL SCHOOLS:—
(LONDON.)
Charing Cross Hospital Medical School 41
London Hospital Medical College. 41
London Hospital Medical College and Dental School 41
London School of Clinical Medicine 41
Middlesex Hosp. Medical School.. 41
St. Bartholomew's Hospital and College 39
St. Mary's Hospital Medical School 41
St. Thomas's Hospital Medical School 40
University of London, King's College..... 40
West London Post-Graduate College..... 40

(PROVINCIAL, &c.)
Anderson College of Medicine, Glasgow 42
Edinburgh School of Medicine for Women 42
University of Leeds 42
University of Sheffield 42

NURSING INSTITUTES:—
Army and Navy Male Nurses Co-operation 46
Co-operation of Temperance Male and Female Nurses 45
General Nursing Association..... 44
Hospital for Sick Children, Great Ormond-street..... 44
Leeds Trained Nurses' Institution 45
London Nurses' Association 45
London Temperance Male and Female Nurses Co-operation.... 45
Male Nurses Temperance Co-operation..... 46
Mental Nurses' Co-operation..... 44
New Mental Nurses' Co-operation. 44
Nurses' Co-operation, Portland-place 44
St. John's House 44
St. Luke's Hospital 46
Temperance Association of Male Nurses, Ltd..... 45
Temperance Male Nurses Co-operation 46
Temperance Male and Female Nurses Co-operation 45
The Retreat, York 45

For continuation of Index to Official and General Announcements, and Trade and Miscellaneous Advertisements, see page 4.

HELPFUL BOOKS

For the Military Surgeon

"The military surgeon is a specialist, and he must know many things besides the treatment of the sick and injured. He must be a master of hygiene; he must possess executive capacity; he must be able to discipline others and to subject himself to discipline; he must be forceful, self-reliant, and resourceful; he must be acquainted with the laws and regulations of the military establishment; and he must have a special knowledge of gunshot wounds as received in battle."—Professor J. CHALMERS DACOSTA, M.D., LL.D.

Keefer's Military Hygiene

READY TO-DAY

This is a complete though concise text-book on military hygiene and sanitation. It includes chapters on the care of troops, recruits and recruiting, personal hygiene, physical training, preventable diseases, clothing, equipment, water-supply, foods and their preparation, hygiene and sanitation of posts and barracks, the troopship, hygiene and sanitation of marches, camps and battlefields, disposal of wastes, tropical and arctic service, venereal diseases, alcohol and other narcotics. The text is fully illustrated, mostly with original illustrations.

12mo of 165 pages, Illustrated. By Lieut.-Col. FRANK R. KEEFER, Professor of Military Hygiene at the United States Military Academy, West Point. Cloth, 6s. 6d. net.

DaCosta's Modern Surgery

Just Issued—New (7th) Edition

"Bears abundant evidence of the work of a master in the science and art of surgery, and will continue to hold its position amongst the great surgical text-books in the English language."—BRITISH MEDICAL JOURNAL.

Contains an Illustrated Section on Gunshot Wounds.

Octavo of 1515 pages, with 1085 Illustrations. By JOHN CHALMERS DACOSTA, M.D., Professor of Surgery, Jefferson Medical College, Philadelphia. Cloth, 25s. net.

Crandon and Ehrenfried's Surgical After-Treatment

"This is the most comprehensive work on surgical after-treatment that has yet been written. ..... The teaching is characterised by common-sense and originality."—THE MEDICAL REVIEW.

Octavo of 831 pages, with 265 original Illustrations. By L. R. G CRANDON, M.D., Assistant in Surgery, and ALBERT EHRENFRIED, M.D., Assistant in Anatomy, Harvard Medical School. New (2nd) Edition. Cloth, 25s. net.

Dannreuther's Minor and Emergency Surgery

"The book deals with the greater part of minor surgery, especially that part which is concerned with emergencies. It is well suited for the purpose for which it has been written."—THE LANCET.

12mo of 225 pages, Illustrated. By WALTER T. DANNREUTHER, M.D., Surgeon in St. Elizabeth's Hospital, New York City. Cloth, 6s. net.

Fowler's Operating Room and the Patient

New (3rd) Edition

"The book is one which we have confidence in heartily recommending, and it will prove a thoroughly useful adjunct in any surgical service. The illustrations are good and well chosen."—BRITISH MEDICAL JOURNAL.

By RUSSELL S. FOWLER, M.D., Chief Surgeon to the German Hospital, Brooklyn, N.Y. Octavo of 611 pages, with 212 Illustrations. Cloth, 15s. net.

Books sent, Carriage Paid, on Receipt of Price.

W. B. SAUNDERS COMPANY, 9, Henrietta Street, London, W.C.

INDEX—(CONTINUED).

PAGE

OFFICIAL NOTICES:—
Central London Throat, Nose and Ear Hospital ... 43
City of London Lying-in Hospital ... 41
College of Preceptors ... 40
Guy's Hospital Medical School ... 43
Income Tax Protection and Relief Association ... 43
London (Royal Free Hospital) School of Medicine for Women. 43

PAGE

OFFICIAL NOTICES—(Continued).
London School of Tropical Medicine ... 40
Medical Graduates' College and Polyclinic ... 40
Middlesex Hosp. Medical School ... 43
Queen Charlotte's Lying-in Hospital ... 41
Royal Eye Hospital, Southwark ... 33
St. Bartholomew's Hospital and College ... 39

PAGE

OFFICIAL NOTICES—(Continued).
School of Medicine of the Royal Colleges, Edinburgh ... 43
University of Cambridge ... 43
University of London, University College ... 43
West End Hospital for Diseases of Nervous System ... 43
PARTNERSHIPS & PRACTICES 66
RAILWAY & STEAMSHIP CO.'S:—
New Zealand Shipping Co. ... 43

PAGE

SCHOOLS, PREPARATORY, &c.:—
Agricultural College, Aspatria, Cumberland ... 43
British and Foreign Schools Agency, Manchester ... 43
The Grange, Folkestone ... 43
TUTORS & LECTURERS:—
Beckton ... 44 | Behnke ... 44
Med. Corres. College ... 44 | Weymouth ... 44

TRADE AND MISCELLANEOUS ADVERTISEMENTS

ANATOMICAL MECHANICIANS:—
Grossmith's Artificial Eyes, Legs, &c. ... 6

AMBULANCES:—
St. John Ambulance—
Invalid Carriages ... 58

BOTTLE MERCHANTS:—
Isaacs ... 59

CARRIAGES, MOTORS, &c.:—
Armstrong—
Coachmen's, Grooms', and Chauffeurs' Liveries ... 59

CHEMISTS & DRUGGISTS:—
Acrosyl Co.—
Acrosyl ... 24
Allen & Hanburys—
Antitoxins, &c. ... 27
Antikamnia Chemical Co.—
Antikamnia ... 16
" & Codeine Tablets 16
Battle & Co.—
Papine ... 18
Bromidia ... 18
Iodia ... 18
Kethol ... 18
Brevillon & Co.—
Iodeol ... Cover iv
" Capsules ... " iv
" Liquid ... " iv
" Ovules ... " iv
Iodargol ... " iv
Uraseptine ... " iv
Hipposarcine Roy ... " iv
Crolas Oil ... " iv
Glyphospher ... " iv
Sapsalve ... " iv
Medical Emergency Pocket Case ... " iv
Bristol-Myers Co.—
Sal Hepatica ... 35
British Oxygen Co.—
Oxygen ... 38
Bullock & Co.—
Pepsina Porci ... 34
Acid Glycerine of Pepsine ... 34
Carnrick & Co.—
Liquid Peptonoids ... 30
Christy & Co.—
Glyco Thymoline ... 22
Ergoapiol ... 37
Denver Chemical Mfg. Co.—
Antiphlogistine ... 16
Fassett & Johnson—
Emol Kelcet ... Cover iii
Fletcher, Fletcher & Co.—
Endolytic Tubes ... 7
Gale & Co., Ltd.—
Entrapuro ... 37
Sugonum ... 37
" Antiseptics ... 37
Howlett & Son—
Mist. Pepsinæ Co. c. Bismutho 34

CHEMISTS—(Continued).
Hoffmann-La Roche Chemical Works—
Digalen, Omnopon, &c. ... 61
Huggins—
Ozone Paper for Asthma ... 35
Humphrey Taylor & Co.—
Junora ... 19
Lecithin-Ovo ... 19
Lambert Pharmacal Co.—
Listerine ... 37
Maltine Manufacturing Co.—
Maltine Formula for Humanising Cow's Milk ... 30
Mertens—
Nourry's Iodinated Wine ... 18
Cacodylate of Sodium ... 16
Enésol ... 18
Newbery & Sons—
Pulvis Jacobi Ver. ... 14
New York Pharmaceutical Co.—
Hayden's Viburnum Compound ... Cover iii
Parke, Davis & Co.—
Antisepsis Vaccine ... 25
Mixed Vaccine for Coliform Infections ... 25
Typhoid Vaccines ... 25
Raimes & Co.—
Slinger's Nutrient Suppositories ... 38
Roberts & Co.—
Cord. Ext. Ol. Morrhuæ Comp. 17
Sallein ... 23
Sanatogen Company—
Sanatogen ... 31
Formamint ... 31
Smith & Co.—
Hall's Wine ... 14
Welford & Sons—
Sauermilch ... 62
Whiffen & Sons—
Emetine ... 34
Wilcox, Jozeau & Co.—
Dragées Gélineau ... 34
Wright, Layman & Umney—
Wright's Coal Tar Soap ... 15

DISINFECTANTS:—
Pearson's Antiseptic Company—
Pacolol ... 35
Zimmermann & Co.—
Lysol ... Cover ii

ENGRAVERS (NAME PLATES) &c.—
Cooke & Co.—
Brass Name Plates and Lamps 14

FOODS:—
Allen & Hanburys—
Allenburys' Diet ... 33
Aylesbury Dairy Co.—
Humanised Milk ... 38
Benger's Food, Ltd.—
Benger's Food ... 28
Blatchley's Diabetic Preparations 36

FOODS—(Continued).
Bonthron & Co.—
Biogene Cocoa ... 36
Charcoal Biscuits ... 36
Brand & Co.—
Essence of Beef ... 36
Callard & Co.—
New Diabetic Foods ... 14
Casein Limited—
Vi-Cascin ... 35
Fairchild Bros. & Foster—
Peptogenic Milk Powder ... 21
Panopepton ... 21
Horlick's Malted Milk Co.—
Malted Milk ... 62
Maconochie Bros.—
Pan Yan Pickle ... 62
Manhu Food Co.—
Manhu Diabetic Foods ... 36
Savory & Moore—
Infants' Food ... 17
Valentine's Meat Juice Co.—
Meat Juice ... Cover ii
Van Abbot & Sons—
Gluten Flour ... 28
Van Houten's Cocoa ... 20
Wander, Ltd.—
Ovaltine ... 28

FURNITURE, &c.:—
Carter—
New Pattern Inexpensive Commode Chair ... 10

MED. & SURG. APPLIANCES:—
Bailey & Son—
Operative Surgery, Sick Nursing, Theatre and Ward Furnishing ... 9
Burroughs Wellcome & Co.—
Tabloid Brand Adjustable Head Dressing ... 29
Davis—
Lukens Sterile Catgut ... 7
Ernst—
Surgical and Orthopædic Appliance, &c. ... 61
Garrould—
Surgeon's Operating Gown ... 7
" Apron ... 7
Hearson & Co.—
Hearson's Specialities ... 11
Hogg & Son—
Improved Steam Vaporisers ... 14
Holland & Son—
Patent Instep Supports ... 3
Hospitals and General Contracts Co.—
Instruments, Dressings, Surgical Furniture, &c. ... 32
Millikin & Lawley—
Osteology, &c. ... 8
Robinson & Sons—
Capsicum Gamgee Tissue ... 6
St. Dalmas & Co.—
Varico Leg Bandage ... 11
Seabury & Johnson—
Standard Gauzes ... 12

MED. APPLIANCES—(Continued).
Surgical Manufacturing Co.—
The "S.M.C." Portable Operation Table ... 10
"The Handy" Complete Set of Splints ... 10
Army Regulation Field Haversack ... 10
Portable Instrument Table ... 10
"Roderose" Pattern Stretcher 10
Timpson & Co.—
Reliable Ligatures ... 8
Zeal—
Repello Thermometer ... 6

MINERAL WATERS:—
Davis—
Tarasp Water ... 33

STOVES, &c.:—
British Commercial Gas Association—
Modern Gas Fires ... 13
Hot Water Supply ... 13

TAILORS, BOOTMAKERS, &c.:—
Burberrys—
The Burberry ... 15

TOBACCO, CIGARS, &c.:—
Player & Sons—
Perfectos Cigarettes ... 32

TYPEWRITING, &c.:—
Yost Typewriter Co.—
Yost ... 7

VACCINE LYMPH:—
Jenner Institute for Calf Lymph 61
Rebman's Pure Aseptic Calf Lymph ... 61
Roberts & Co.—
Chaumier's Calf Lymph ... 61

WINES, BEER, SPIRITS, &c.:—
De Kuyper's Hollands ... 35
Humphrey Taylor & Co.—
"G.B." Diabetes Whisky ... 19

X-RAY, &c., APPARATUS:—
Ilford, Limited, Ilford—
X-Ray Plates ... 3
X-Ray Films ... 3

MISCELLANEOUS:—
Francis, Barnes—
Medical Typewriting ... 58
L., Westcliff-on-Sea—
Dental Forceps ... 59

EVERY FRIDAY.

THE LANCET.

PRICE SIXPENCE.

SUBSCRIPTION, POST FREE.

FOR THE UNITED KINGDOM.*		TO THE COLONIES AND ABROAD.	
One Year	£1 1 0	One Year	£1 5 0
Six Months	0 12 6	Six Months	0 14 0
Three Months	0 6 6	Three Months	0 7 0

* *The same rate applies to Medical Subordinates in India.*

Subscriptions (which may commence at any time) are payable in advance.

An original and novel feature of "THE LANCET General Advertiser" is a Special Index to Advertisements on pages 2 and 4, which not only affords a ready means of finding any notice, but is in itself an *additional* advertisement.

Advertisements (to ensure insertion the same week) should be delivered at the Office not later than Wednesday, accompanied by a remittance.

Answers are now received at this Office, by special arrangement, to Advertisements appearing in THE LANCET.

The Manager cannot hold himself responsible for the return of testimonials, &c., sent to the Office in reply to advertisements; copies only should be forwarded.

Cheques and Post Office Orders (crossed "London County and Westminster Bank, Covent Garden Branch") should be made payable to the Manager, MR. CHARLES GOOD, THE LANCET Office, 423, Strand, London, to whom all letters relating to Advertisements or Subscriptions should be addressed.

THE LANCET can be obtained at all Messrs. W. H. Smith & Son's and other Railway Bookstalls throughout the United Kingdom. Advertisements are also received by them and all other Advertising Agents.

ADVERTISING.

Books and Publications	Five Lines and under £0 4 0
Official and General Announcements	
Trade and Miscellaneous Advertisements and Situations Vacant ...	Every additional Line 0 0 6
Situations wanted: First 30 words, 2s. 6d.; per additional 8 words, 6d.	

Quarter Page, £1 10s. Half a Page, £2 15s. An Entire Page, £5. 5s.

Special terms for Position Pages.

OFFICES: 423 and 424, STRAND, LONDON, W.C., and 1, 2, and 3, BEDFORD STREET, Adjoining.

Agent for the Advertisement Department in France—J. ASTIER, 35, RUE FRANKLIN, Asnieres, Paris.

The Lettsomian Lectures
ON
DYSENTERY.

Delivered before the Medical Society of London, 1914,

BY F. M. SANDWITH, M.D. DURH., F.R.C.P. LOND.,
GRESHAM PROFESSOR OF PHYSIC; LECTURER ON TROPICAL DISEASES, ST. THOMAS'S HOSPITAL, ETC.

LECTURE I.

THE HISTORY OF DYSENTERY.

Life is short and the Art long; the opportunity is fleeting; experiment is dangerous and decision is difficult. The physician must not only be prepared to do what is right himself, but also to make the patient, the attendants, and externals coöperate.—*1st Aphorism of Hippocrates.*

GENTLEMEN,—I should like in the first place to express my full appreciation of two compliments paid to me by the President and Council of the Medical Society: the original invitation to deliver the Lettsomian lectures for this year, and the gracious courtesy which has permitted the postponement of their delivery for reasons of health which were beyond my own control.

I imagine that it is the duty of the lecturer to choose a subject about which he believes himself to be less ignorant than about others, and at the same time to select a theme which is of some practical importance to many Fellows of this society. Every year a considerable number of cases of uncured dysentery is imported into Great Britain, sometimes open and avowed, often masked and silent, but always of some potential danger to the community. Another reason for inducing me to select this topic is that I find since this lectureship was established in 1850 dysentery has only once been taken as the subject of the lectures. In 1881 Sir Joseph Fayrer, K.C.S.I., F.R.S., lectured here on Tropical Dysentery and Diarrhœa, and though his lectures did not appear in the Transactions of the Medical Society nor in the medical journals of the time, they were reproduced with some other papers in book form at the end of 1881.

It is instructive now to take stock of the knowledge gained of the diagnosis and treatment of dysentery during the 33 years which have intervened. The history of the disease shows us that, almost more than any other infectious disorder, it has had a widespread diffusion all over the inhabited world; most countries have suffered from national visitations, and it is still true that wherever man is found some form of it is liable to appear.

Although there is no evidence to show that our insufficiently clad, fruit-loving, prehistoric ancestors were plagued by dysentery, Hindu records carry us back some 3000 years, to the time when the disease was sufficiently well known to be divided into acute and chronic varieties, and therefore named differently. The Hindu surgeon Sushruta,[1] who lived three or four centuries B.C., was by no means ignorant of preventive medicine, for he wrote: "He falls an easy victim to internal and external diseases who drinks of, or bathes in, a pool of water which is full of poisonous worms, or is saturated with urine or fæcal matter, or is defiled with germs of vermin or decomposed animal organisms, or is covered over with the growth of aquatic plants, or is strewn over with withered and decomposed leaves, or which in any way is rendered poisonous and contaminated, as well as he who drinks and bathes in the freshly collected water of a pool or a reservoir during the rains."

To great Hippocrates seems to belong the credit of the name dysentery and of differentiating it from diarrhœa, though we see by his aphorisms that he was quite aware of the possible transition of one disease into the other. He knew that dysentery was more likely to be fatal to children between 5 and 10 years of age than to adults, and another aphorism says: "If, in a person ill of dysentery, substances resembling flesh be discharged from the bowel it is a mortal symptom." He pointed out the danger of such symptoms as fever, thirst, and inflammation of the liver or stomach; "the more of these symptoms there are, the greater the danger; and the fewer, the more hope is there of recovery."

Dysentery was well known to all later writers of antiquity. Celsus, for instance (Lib. IV., Sect. XV.), tells us that there are in the interior of the intestines ulcers from which blood flows, mixed with fæces or mucus; that the patient suffers continuously from tenesmus and pain near the anus, and that if the case becomes chronic it is wise to administer soothing enemata. He devotes another paragraph to "the disease called by the Greeks tenesmus," but says that it may be treated like dysentery. Dr. Budge[2] has just translated from Syriac into English a series of lectures on human anatomy, pathology, and therapeutics, which were originally written in Greek by a learned and distinguished, but unnamed, physician who had evidently studied in Alexandria when that city was the scientific centre of the world. The author was an earnest follower of Hippocrates, and his lectures were translated from Greek into Syriac about the twelfth century, but unfortunately the translator's name is also unknown, for the Syriac manuscript was mutilated, perhaps because it contained theories or statements which were not acceptable to monkish readers. We are told that "dysentery (or bloody disease of the inside) begins with evacuations of bile in large quantities which cause griping pains, and afterwards portions of the bowel come forth and then a little blood. These portions of the bowels must be carefully examined, for they indicate the place where the ulcer, which causes the dissolution of the bowel substance, is situated. When the ulcer is in the upper part it may be treated by medicines that are drunk, but when it is in the lower part astringent injections must be used. Ulceration of the bowels does not arise suddenly."

In another place the author says that the bloody diarrhœa "is like unto the water in which meat that hath just been killed hath been washed." There is a wealth of prescriptions, and one, containing 44 ingredients, is described as "a most excellent and marvellous medicine, and no other existeth which is to be compared with it." After this high praise the practitioner must have been disappointed to read: "The dose is according to what God shall show thee."

In Europe, with the exception of plague, the epidemics in early days of which we hear most are typhus, malaria, and dysentery. The last named was certainly prevalent in France in A.D. 534, in Hungary in 820, in Germany in 1083 and 1113, and in England in 1316. Wars, famine, and foul drinking water were the chief allies of the various epidemics. The camp at Bordeaux, for instance,

lost 14,000 men from dysentery in the year 1411 (Walsingham). Like malaria, dysentery reached its maximum diffusion and its greatest endemic severity in the tropics, while in subtropical countries there was, and still is, a decrease in the prevalence and seriousness of its endemic and epidemic incidence. Unlike malaria, epidemics of dysentery have attained northern latitudes such as Sweden and Iceland, though the disease has apparently found difficulty in prolonging its endemic existence in cold countries. King John is said to have died at Newark-on-Trent in 1216 from dysentery, aggravated from indulging too freely in peaches and copious draughts of new cider.[3] Edward I. is also said to have suffered from dysentery shortly before his death in 1307.

The earliest entries of dysentery which Creighton can find in the parish registers of England occur in 1596, when out of 28 burials during the year at Finchley 19 persons had died from dysentery, while in the following year there were 23 deaths from this cause out of a total of 48. Both these were years of scarcity all over England, and dysentery, with or without "famine fever," became the chief sickness in succession to declining plague.[4] In Stuart times dysentery began to be constantly heard of as a malady of London, called the flux or flix, and occurred in the bills of mortality after 1657 under the name "griping of the guts." The recipe for dysentery of the Hon. Robert Boyle (1627–1691), the most celebrated natural philosopher of his time and one of the founders of the Royal Society, was: Take the bone of the thigh of a hanged man, calcine it to whiteness, and give the white powder in some red cordial. In addition to scurvy our sailors suffered severely from dysentery, and Sir Francis Drake in 1596 had to keep his cabin, complaining "of a scouring or flux," 13 days before he died off the Spanish Main.

In 1655 Cromwell's ambition to convert a Spanish island into an English colony led to many disasters. A naval and colonial force of 8000 men failed to take St. Domingo, chiefly because the troops (who had been revelling in oranges and other fruit and were therefore probably not scorbutic) "were troubled with violent fluxes, hundreds of our men having dropped down by the way, some sick, others dead." During the three weeks of this disastrous campaign on the island there were 1700 deaths, mostly due to "flux." The expeditionary force sailed on to Jamaica, where the Spaniards offered little opposition, but dysentery was almost universal among our officers and men. There was no care of the sick, no medical attention, no hospitals, no scavenging, no effort to protect the water-supply, not even energy to bury the dead. A despatch to Cromwell from his new possession stated that the army (which had meantime been reinforced) was reduced in January, 1656, to 3000 men, many of them sick and weak. "We die daily, not less than 50 every week, which is much, considering our small numbers." In this haphazard fashion did England become the owner of an island which is extolled to-day as a health resort!

The slave ships which transported negroes from Africa to North America were decimated by dysentery; the unfortunate slaves were beaten by the sailors, fed on salt beef and pork, and, to ensure cleanliness, they were forced into a tub of cold water every day, while a bucketful was poured upon their heads, in spite of their illness. Lettsom (1744–1815) practised as a young man in one of the West India Islands, where dysentery was certainly feared, and in consequence it became the custom of the residents to take their own drinking water with them when they were invited to dine on board a British ship. He seems to have regarded malaria and dysentery as twin associates and to have been certain that the latter was contagious. In 1772 he wrote: "Every writer now allows the dysentery to be so, and the nature of this disease and remittents is so analogous that they seem to proceed from the same causes, somehow disposed to attack the body in a different manner; they even admit of mutual and alternate changes one with the other, and the method of cure in both is nearly the same, if we allow for the different symptoms liable to arise from the topical affection of the intestinal canal" ("Reflections on the General Treatment and Cure of Fevers," Section II.).

RECORDS IN BRITISH ISLES.

In London, dysentery seems to have reached its chief prevalence in 1629, when the bills of mortality began to be regularly printed. In that year 449 deaths, being one-twentieth part of the mortality from all causes, were entered under the name of "bloody flux," while in succeeding years the heading was either "griping of the guts," which Creighton says also included infantile diarrhœa of the summer or autumn, or "surfeit," a term based on the erroneous theory that dysentery was caused by a surfeit of fruit. In the latter half of the seventeenth century Sydenham and Willis reported from London that there was a certain amount of dysentery every year, especially in camps and in prisons, but that it was not very contagious nor often mortal, except in the case of aged persons. But in 1689 there were two terrible outbreaks among troops at Londonderry and Dundalk. During the siege of Protestant Londonderry by the Catholic Irish army of James II., which only lasted 105 days, it was calculated that 10,000 (out of 30,000 besieged) died from fluxes, fever, and famine, "besides those who died soon after." Twenty-six days before the besiegers withdrew in consequence of the arrival of an English ship, some 500 useless persons were expelled by the garrison, and the besiegers are said to have recognised them when they met them "by the smell." A month later the released garrison carried dysentery and typhus to Schomberg's camp at Dundalk, where about 1700 died in spite of the routine treatment of casks of brandy, which were distributed among the regiments. Story, a regimental chaplain, who wrote a history of this campaign, says that he found his own men in a state of brutal callousness, objecting to part with their dead comrades because they wanted the bodies to sit or lie on, or to keep off the cold wind!

Ten years before these two calamitous outbreaks Borlase had written, "The dysentery or flux is commonly called the country disease, and well it might, for it reigns nowhere so epidemically as it doth in Ireland." Sydenham was therefore justified in writing of the endemic dysentery of Ireland. When it ceased to be indigenous it became an occasional scourge, but since 1846–47 Ireland has apparently been free from epidemic dysentery. Graves (2nd ed., 1848) does not devote much space to this disease in his clinical lectures, but impresses upon his pupils the importance of putting patients suffering from chronic dysentery upon a "full meat diet." He possibly had famine or scurvy in his mind as a likely cause. Between 1759 and 1764 Dr. Mark Akenside in London treated at St. Thomas's Hospital 130 cases of dysentery, and proved the

good effects of ipecacuanha upon many of them.[4] He also pointed out that some of his autumnal cases did not abate until the following spring. But we cannot to-day accept his teaching that dysentery is "a rheumatism of the intestines."

At the end of the eighteenth century dysentery was easily transported from one country to another; for instance, transports conveying troops to Jamaica landed 400 sick with dysentery, though five months had elapsed since they left England. In much the same manner, and by what seems to have been a more usual process, imported cases infected our seaports. As an example, we read that the dock labourers of Newcastle were mortally infected in 1781 by dysenteric sailors who had returned from abroad.

Hirsch tells us that the first notice of a pandemic diffusion of dysentery over Europe dates from 1538, and that this was followed by at least six other similar pandemics, some of which lasted for three years or more. The last widespread European epidemic was in the years 1853–55, in France, Switzerland, Germany, Denmark, Sweden, and Russia. Many parts of Scotland and England were attacked in 1846–47, and even in the twentieth century the disease has been more or less endemic in European Russia, Austria, Hungary, the Balkan States, Spain, and Italy. It is, therefore, somewhat premature to label acute dysentery as a tropical disease, though, so far as the British Isles are concerned, it may now be considered an exotic, with the exception of cases still met with in lunatic asylums, to which I must refer in the final lecture. Dysentery is indigenous in many parts of Asia, such as the Hejaz, India, Ceylon, China, and Japan; in Australasia it is well known in Queensland, British New Guinea, Fiji, and many other islands. In Africa and its islands the disease is a common one in most of the inhabited districts, and this is almost true of North, Central and South America, and the West Indian Islands.

Famines.—All through history it has been known that dysentery is an early attendant on long-continued famine, though it does not now exhibit a very infectious character when refugees introduce it. Yet the effect of the Indian famine of 1897 was to increase fourfold the deaths from dysentery and diarrhœa. In 1900, which was the last famine year in India, the deaths from bowel complaints rose from 252,025 to 530,654, being an increase of more than 111 per cent. The mortality in the Punjab and elsewhere was most marked in the famine districts. The failure of the rains in 1899 had led to the use of foul, stagnant, concentrated water from pools, while the rains of 1900 carried into the water channels an unusual accumulation of impurities; the people had to fill an empty void with indigestible food, such as badly cooked or raw grain, grass seeds, leaves, bark and roots, while after the onset of the rains they gorged themselves with green, fresh vegetables.[5] My own limited experience of famine-stricken Sudanese, imported into Egypt, compels me to admire the acumen of Herodotus, who attributed the dysentery which destroyed Xerxes' army, not so much to starvation as to the men having been obliged to try and support life by subsisting on the bark and leaves of trees.

ASSOCIATION WITH WARS.

Since the Peloponnesian war there has hardly been a protracted military campaign in which dysentery has not scourged the hostile armies. To take only some modern instances: in the American Civil war the Federal troops lost 37,794 men from dysentery and diarrhœa, which was nearly 30 per cent. of the total deaths; these diseases were also frightfully prevalent among the Federal prisoners at Andersonville, where they occasioned 50 per cent. of the sickness and 58·7 per cent. of the deaths from all causes. In the Franco-German war (1870–71) there were 38,652 admissions and 2380 deaths from dysentery in the German army; the troops on their return home spread infection in many districts, some of which, after all these years, are not yet quite free from it. In the South African campaign (1899–1902) we had 38,108 cases of dysentery with 1342 deaths. There were many predisposing causes, which tended to produce chronic irritability of the intestines and made the troops susceptible to infection, such as the youth and inexperience of our men, great variations in temperature, causing chills, extremely tough meat rations, and the very bad condition of the teeth of a large number of men towards the close of the campaign.

But the greatest source of danger which we encountered in South Africa was undoubtedly the water-supply. In standing camps, during the latter part of the war, all water was boiled; in hospitals and messes Berkefeld filters were used, but to carry out boiling properly large quantities of fuel are required, an almost insurmountable difficulty in a treeless country. On the march it was found practically impossible to prevent men from drinking foul water.

Great care was taken to select the best possible source; medical officers went on ahead of the column to select the place for filling the water carts. Sentries were posted to prevent animals and men, especially natives, from fouling the supply, and a European was placed in charge of the carts to see that they were filled at the selected spots. All this was well carried out in camp, and also when the columns arrived on the camping ground sufficiently early, but frequently it was after dark, and possibly pouring with rain, when the carts were probably filled at the nearest place. Then, as fire and lights were not allowed if the enemy were in the vicinity, it was impossible to boil water, cook food, or dig latrines.

Towards the end of the summer water became scarce and the choice of camping grounds was more restricted; consequently the same ground was repeatedly occupied and the surroundings became more contaminated. Diseased and exhausted animals invariably make for water, and not having strength left to extricate themselves from the mud lie down and die, so where the banks of the stream are steep the mortality is very great. The Modder River, in particular, was full of the carcasses of animals.[6]

When Ladysmith was besieged it was a town ripe for an epidemic, with three dangerous factors present: (1) a bad water-supply from the Klip River, already polluted by drainage from the town and from the Boer lines up-river; (2) a perfectly inadequate method of dealing with sewage; and (3) a soil previously polluted and infected. Valiant efforts were made to mend matters. Engineers from H.M.S. *Powerful* and some railway men constructed a condensing plant with locomotive boilers, but as fuel became scarce the supply had to be limited; rough filters were made, and as long as fuel lasted the water was boiled, and officers noted an apparent improvement in the health of the men so long as such methods could be used, but they could only be very partially adopted. It was only in the hospital at Intombe that a continuous system of filtering the water through Berkefeld filters could be kept up. During the 120 days of the siege there were 1280 cases of enteric fever with 360 deaths, and 1841 cases of dysentery with 105 deaths. The

high death-rate was greatly due to the scarcity of milk and other suitable nourishment. The rations for the troops for the last six weeks of the siege consisted only of three small biscuits and 1¼ lb. of horse or mule flesh, or its equivalent.

The 48 medical officers who were in Ladysmith made gallant efforts, as the following record shows: 5 died, 10 had severe attacks of enteric fever, and 12 others were incapacitated, which shows what a strain must have been thrown upon those who could remain at their posts. On the relief of Ladysmith there were 2000 sick and wounded in the hospitals and at least as many more who were only fit to be invalided. The relieving force, which had spent a fortnight in the horribly insanitary positions lately occupied by the Boers, at once added an enormous number of sick to the garrison. Sir Frederick Treves was among the first to enter the town with the relieving force, and this is what he says:—

> The men were piteous to see; they were thin and hollow-eyed, they had about them an air of utter lassitude and weariness. Some were greatly emaciated, nearly all were pale, nearly all were silent. They had exhausted every topic of conversation, it would seem, and were too feeble to discuss even their relief. Streets were empty of all but a few tired and listless men, stores without goods, shops without customers, a railway station without passengers, a post-office without letters, stamps, or postcards. No words, indeed, can fully describe this city of desolation, this little colony of the almost hopeless, this poor, battered, worn-out, hungry town of Ladysmith, with a bright summer sun making mockery of its dismal streets. The wretchedness of the place was not mitigated by the horrible smells which greeted one at every corner, nor by the miserable, dirty river which crawled slimily through the place.[7]

As a postscript of dysentery in South Africa I may add that an outbreak of 170 cases and 38 deaths occurred at Aldershot in 1901, apparently due to importation of the disease by returning troops.

Let us turn for a minute to Japan, where there was, during 1894, the enormous number of 155,140 cases of dysentery, of which 38,094 died.[8] From the sanitary point of view the Japanese had fared badly in their land campaign against China in that year, losing 3 from disease to every 1 wounded. But they took the lesson to heart and proceeded to mend matters, so that, when they fought and beat the Russians in 1904, instead of a proportion of 4 deaths from disease to 1 death from wounds, which Sir Thomas Longmore tells us is the average of the wars of the last 200 years, the Japanese reversed those figures, having a mortality of 1 dead from disease to 4 dead from wounds. Those British officers who were allowed to accompany the Japanese troops report that sickness was kept down by reliance upon every soldier carrying out the regulations taught to him in peace time rather than upon any expert sanitary corps. Every Japanese soldier is taught that the most disgraceful illness to which he can succumb is one induced by disobedience to orders, such as drinking dirty water or eating unwholesome food. The national habit of drinking tea, which necessitates boiling the water, was of great preventive assistance. But when the Japanese was unable to boil the water he suffered just as others do. For instance, before Port Arthur there was an advanced post of 300 men, whose only water-supply came from a surface well which they had dug. The post was close to the Russian lines, so that fires for boiling water were not permitted. The water was good enough unboiled until, one day in August, a heavy storm of rain flooded the well and doubtless contaminated it. "The men drank the water as usual, and next morning they were nearly all down with dysentery."[9]

The mortality from dysentery among the Japanese was often as high as 25 per cent. of the cases, which can be explained by "the fact that 90 per cent. of the dysentery cases were complicated with beri-beri." In the recent war between Italy and Turkey in Tripoli, and again in the Balkan campaign, dysentery was present among the troops, but no complete statistics have yet been published. Dr. Stiven, however, who was near Constantinople in the war of 1912–13, caused to be examined in his hospital laboratory 228 specimens of fæces, with this percentage of results: cholera, 10·9; bacillary dysentery, 35; B. coli enteritis, 54·1 All the dysentery cases examined were of the Shiga type, and no cases of amœbic dysentery were detected. Many of the B. coli cases may have been originally bacillary cases of dysentery; others were due doubtless to starvation and exposure. "A spore-bearing bacillus was often detected on examining the fæces of patients. This was supposed to be the B. enteritidis sporogenes, and was identical with a spore-bearing bacillus found on maize and other roots. The old soldiers knew that if they ate these roots raw or insufficiently cooked they would get diarrhœa, but that it would yield to treatment."[10]

The so-called dysentery from which Sir Ernest Shackleton's party suffered in the Antarctic zone seems to have been an irritative enteritis due to too rapid a return to meat diet. The usual ration on the march in Polar expeditions consists of dried pemmican (dried beef 23 per cent., marrow and oatmeal fat 63 per cent., water 14 per cent.), biscuit, cocoa or tea, butter and sugar, and Surgeon Atkinson, R.N., a member of the late Scott expedition, tells me that upon returning to camp, in spite of a consuming desire for food, it is better to limit the diet to porridge and bread, for even they produce some diarrhœa, and to withhold all meat for at least six days.

DYSENTERY SLOWLY ADMITTED TO BE WATER-BORNE.

Even after experts had hesitatingly accepted the belief that cholera and enteric fever epidemics were often caused by the impurity of drinking-water, they were unwilling, until the very end of the nineteenth century, to admit dysentery under the heading of "water-borne diseases." For instance, Fayrer (1881) quotes with apparent approval Fergusson, who wrote: "True dysentery is the offspring of heat and moisture, of moist cold in any shape after excessive heat, but nothing that a man could put into him would ever give him true dysentery." Again, in 1891, Notter,[11] while eliminating scurvy and malaria as possible factors, stated that there was little doubt of the correctness of Cullen's view that dysentery and diarrhœa were produced "from the effluvia of putrefying animal substances." It is true that he mentions that two observers in India had directed attention to impure water as an occasional cause. In 1895 Notter's late assistant published an excellent "Handbook of Hygiene," but did not include dysentery as one of the three important diseases caused by impure water, though he states "if dysenteric stools gain access to water it is most probable that such water, if used for drinking, would spread the disease, as in enteric fever and cholera. Proof of this is not, however, forthcoming at present."

I cannot quite remember when I first became aware that dysentery should etiologically be

grouped with cholera and enteric fever, but I recall with great distinctness an incident which occurred during the reoccupation of the Sudan shortly after 1895. An English regiment, during a forced march in hot weather near Dongola, exhausted their drinking water and, maddened by thirst, rushed to an obviously unclean pond which they came upon towards the end of the day. As a direct consequence some 150 soldiers of this regiment developed dysentery, while three weeks later 50 men from the same regiment were down with enteric fever. The officers believed that this one indiscretion caused 52 deaths.

Profiting again by the analogy of enteric fever, we now firmly hold the conviction that dysentery can also be conveyed to man by contaminated food, by flies, and by human carriers. Even now it is not universally recognised that dysentery, under certain circumstances, is communicable from man to man, and that isolation is as necessary in this disease as in enteric fever. The Japanese army includes enteric fever and dysentery among the infectious diseases which have to be isolated. Because malaria has so often in the past been thought to be a cause of dysentery, I should perhaps mention that, though the two diseases are frequently found to be coexisting, we do not now believe that either malady is the cause of the other, nor do we any longer think that drinking water from a marshy district can by itself produce malaria. There is, however, in warm countries a malarial enteritis which simulates true dysentery, and of this I am convinced, because I have twice suffered from it.

During the construction of the Panama Canal the Americans were confronted with the three local scourges—yellow fever, malaria, and dysentery. Their success in lowering the death-rate of dysentery, chiefly by improving the water-supply and by preventing flies from breeding, deserves to be mentioned here. The average dysentery mortality among canal employees during the French régime was 3·79 and under the Americans 0·60 per 1000; thus, though the number of workmen had increased sevenfold, the death-rate was more than six times less than the average of the years 1881–1903. In the city of Panama the dysentery deaths fell from 8·93 in 1884 and 11·70 in 1902 to 0·51 in 1912, and even to 0·30 in 1911 per mille. During 1913 there were no deaths from dysentery among the 11,943 white employees and only six deaths among the 45,000 others.

DIFFERENTIATION OF THE TWO TYPES.

A good epitome of the evolution of our knowledge of dysentery before the differentiation of the two chief types, amœbic and bacillary, was given last year by Sir Leonard Rogers,[13] and I may now briefly refer to the separation of clinical dysentery into the two varieties amœbic and bacillary dysentery, for which we are indebted to microscopical and bacteriological research. In 1859, at Prague, Lambl first found living amœbæ in the fæces of a case of infantile diarrhœa, and in 1873 Lösch, at St. Petersburg, again found amœbæ in a case of chronic dysentery.[14] He injected fresh fæces containing these amœbæ into the rectums of four dogs, and produced in one of them dysenteric symptoms. Three weeks later this dog was killed, when dysenteric ulcers were found in the rectum, and amœbæ were present which Lösch named amœbæ coli. After looking at his drawings you will agree that his paper was well illustrated, but we now believe that he was dealing with what is to-day called Entamœba histolytica.

Other observers found amœbæ present in the motions of healthy people, so that these protozoa were still considered to be of doubtful etiological importance until Koch, in 1883, in Alexandria, and later in India, not only discovered the cholera vibrio but also amœbæ in sections of human intestines. He was then at the height of his fame and was a most stimulating teacher. Inspired by the enthusiasm which we all felt for him at that time, Kartulis investigated all the cases in his hospital in Alexandria, and eventually found amœbæ present in 500 dysenteric patients, while they were absent in other individuals. He also found amœbæ in sections of the intestines and in the pus and walls of liver abscesses.[14] He defined two types of dysentery, that due to amœbæ, which he called "endemic," and another due to bacteria, which he suggested was "epidemic."

In 1890 Osler corroborated the discovery of Kartulis by finding amœbæ at Baltimore in a case of dysentery with abscess of the liver, which had originated in Panama. A series of similar cases in the wards of Johns Hopkins Hospital was then described by Councilman and Lafleur, who introduced the term "amœbic dysentery." In 1893 Kruse and Pasquale re-investigated the question in Egypt, and sought to solve the difficulty in the minds of many observers by suggesting that there were two species of amœbæ, one harmless and the other pathogenic. They also clinched the pathogenicity of the Egyptian amœbæ by producing dysenteric symptoms and lesions in cats by injecting into them, per rectum, amœbæ from dysenteric stools and from the pus of liver abscesses. Ten years later lingering doubts as to whether certain amœbæ were an etiological factor or not were removed by the publication of Schaudinn's paper on the life-history of human intestinal amœbæ, when he christened the harmless one Entamœba coli and the dysenteric one Entamœba histolytica.

In order to explain the etiology of the non-amœbic type of dysentery every few years since 1869 bacteriologists competed in the task of isolating a specific dysenteric bacterium from the very varied flora of the intestines. But it was not until 1898 that Shiga published his successful results of a study of epidemic dysentery in Japan. He had no lack of material at hand, for in 1897 there were 89,400 cases, with 22,300 deaths. In 36 cases which were investigated Shiga's dysentery bacillus was found either in the fæces or in the intestinal mucous membrane. He also proved that his bacillus agglutinated with the patient's blood under certain circumstances. In 1900 Flexner in Manila discovered Shiga's bacillus and also another differing slightly from it, which is now called Flexner's bacillus. Since then Kruse and many others in Europe have confirmed the existence of the two bacilli, while Strong and Musgrave had the opportunity of proving by a crucial experiment the pathogenicity of the Manila variety. A Filipino prisoner under sentence of death agreed to swallow cultures of the bacillus. Characteristic symptoms of dysentery immediately appeared, the bacilli were obtained in culture from the stools, and then the man was fortunate enough to recover. Flexner tells us that one of his assistants accidentally aspirated into his mouth a small quantity of a culture of the dysentery bacillus; in spite of thorough and immediate disinfection of the mouth

a sharp attack of dysentery followed, which ended, however, in recovery.[16]

Sceptics who maintained that amœbic dysentery was unknown in India and some other warm climates have now been converted, and the broad fact is well established that most of the dysentery of the tropics is amœbic, while much of the dysentery of temperate climates is bacillary. Bacilli are not, however, always absent from amœbic cases. For the last few years attention has been chiefly directed to the life-history of the amœbæ.

Bibliography.—1. Sushruta Samhita: An English Translation based on the Original Sanskrit Text. By Kaviraj Kunja Lal Bhishnugratna. 3 vols. Calcutta, 1912. 2. Budge, E. A. Wallis, Litt.D.: The Syriac Book of Medicines. 2 vols. Oxford, 1913. 3. Rae, J., M.D.: The Deaths of English Kings. Clinical Journal, Dec. 20th, 1911. 4. Creighton, C., M.D.: A History of Epidemics in Britain. 2 vols. Cambridge, 1891. 5. Annual Report of the Sanitary Commissioner with the Government of India, 1900. Calcutta, 1901. 6. Wilson, Surgeon-General W. D.: Report on the Medical Arrangements in the South African War. London, 1904. 7. Treves, Sir F.: The Tale of a Field Hospital. London, 1900. 8. Saneyoshi, Baron: The Surgical and Medical History of the Naval War between Japan and China during 1894-95. Tokio, 1901. 9. The Russo-Japanese War. London, 1908. 10. Stiven, Dr. H. E. S.: Enteritis in a Turkish Cholera Camp, Practitioner, December, 1913. 11. Parkes: Practical Hygiene, eighth edition. 12. Rogers, L.: Dysenteries: their Differentiation and Treatment. London, 1913. 13. Lösch: Virchow's Archiv, 1875, vol. lxv., p. 196. 14. Kartulis, Dr.: Dysenterie (Ruhr). Vienna, 1898. 15. Allbutt and Rolleston's System of Medicine, vol. ii., Part II. London, 1907.

BULLET WOUNDS IN WAR.

BY W. G. TOTTENHAM POSNETT, F.R.C.S. IREL.

AT the present juncture, and in view of the fact that some of us are already being called upon to treat our soldiers for wounds inflicted by the enemy's bullets, I have looked up my old notebooks relating to my experiences during the Boer war and Zululand rebellion of 1906 in the hope that the knowledge gained may be of use to others who have not had the advantage of previously treating cases of rifle wounds.

During 1900-01-02 I attended to close on 1000 wounds caused by rifle bullets, and in those cases where the necessity of the case demanded performed operations of various sorts. Having had the advantage of being in charge of the surgical wards of a large general hospital during the Boer war, into whose beds many severe surgical cases were sent, I think I may fairly claim to be able to speak with some slight authority on the subject.

The wounds made by the high velocity bullet propelled by the explosion of cordite are of the most varied description, and each case requires to be treated according to the necessities of the conditions present, so that no hard-and-fast rule can be laid down, but every wound will require to be treated with the greatest circumspection. The bullets at present in use are somewhat different in shape from those used in South Africa, being more pointed, with a considerably lower trajectory, and whether this will inflict a wound of a different character to those seen during the Anglo-Boer campaign one cannot surmise. The present-day bullet is formed of a shell of hard nickel filled with lead, and in many cases of wounds this outer casing will be found to complicate matters to a considerable extent.

The distance at which the wound is received is of considerable importance. The wounds I saw varied greatly according to whether the person injured were close to or far from the rifle. It seems that the modern rifle bullet has great penetrating power at what one may call the middle distance, from 300 to 900 yards range, and that wounds, even where bones are implicated, received at this distance are of a more penetrative character than those received at a closer, or longer, range. The smashing power of a bullet up to 300 yards is considerable, and great comminution of bone is to be expected in wounds received at that distance, or under it. The same applies to wounds received at 900 yards or over, where the smashing power of the bullet is again considerable and bone injuries of the most serious magnitude are inflicted.

The high velocity nickel-covered bullet is more or less aseptic, and wounds of the soft parts do not tend to suppurate unless a piece of clothing has been carried into the wound. Bullets going completely through a limb or body seldom are followed by suppuration of the wound. As a rule, the wounds of soft tissues are not of a serious nature, the bullet passing clean through them; the wound of entrance and that of exit, which are usually about the size of a threepenny piece, close rapidly under simple dressings. If in its flight a bullet happens to hit a hard object and ricochets, the wound inflicted may be a large lacerated one. A ricochet bullet frequently has its nickel covering torn open forming a jagged mass, or the whole may be mushroomed; wounds of soft parts made by projectiles in this condition are of a serious nature, generally suppurate, and take a long time to heal.

When a bullet strikes a bone in its course through the body or a limb, if the wound be received at the middle distance, the bullet may pass clean through the bone without doing any serious damage. Sometimes the nickel covering is stripped off and remains in the wound, the lead core continuing its flight. If, on the other hand, the wound be received at close range or over 900 yards, bones struck are shattered, as a rule, into many fragments and the wound of exit is very large, but I have seen cases where long bones have been smashed into many fragments and yet the exit wound was only the same size as that of entrance.

A clean wound of the abdominal viscera will in most cases heal readily and will require very little in the way of treatment; multiple abdominal wounds may require to be operated upon, but they are best treated expectantly for a few days until symptoms of some local trouble arise.

The following notes of specific cases are interesting and instructive.

Head Wounds.

CASE 1.—The patient, aged 24, had been wounded three days before admission. Distance about 450 yards. The bullet entered the skull an inch above the left eyebrow and passed out at the vault; no symptoms of compression or brain injury. Treatment consisted of rest in bed, and the patient recovered.

CASE 2.—The patient, aged 21, had been wounded 48 hours before admission, at what distance was not elicited. There was a large wound behind the left ear, and the skull was splintered. The bullet—evidently a spent one—did not penetrate. The soft structures were turned back in a flap, the bone splinters were removed, and the edges of the bone wound were trimmed. The brain was lacerated. The patient recovered with slight aphasia.

CASE 3.—The patient was 27 years of age. Distance 500 yards. The bullet had entered the external table of the skull above the left ear and had ploughed a wound 2 inches long in the bone. There were no compression symptoms and complete recovery resulted. (*Note.*—The subjects of serious head wounds seldom leave the field.)

Wounds of Thorax and Abdomen.

CASE 4.—The patient was a private, aged 24, who had been wounded two days before admission while lying down taking aim. Distance about 480 yards. The wound of entrance was above the left collar-bone, and that of exit inside the left knee 2 inches above the joint. No special

symptoms. This bullet must have passed through many important organs, and yet there was no serious damage done. Complete recovery ensued.

CASE 5.—A patient, aged 24, who had been struck by a bullet while in a stooping position. Distance unknown. The bullet had entered 2 inches inside the right nipple, had passed backwards and downwards, and its point of exit was 7 inches lower in the back than that of entrance. Both wounds were small and clean. The patient spat blood for three days in small quantities. No bone was injured. Recovery was complete in 20 days.

CASE 6.—The patient, aged 26, had received a bullet wound at a distance of about 80 yards. The bullet had passed between the fourth and fifth ribs, 1 inch outside the nipple line, its point of exit being through the fifth rib behind. The wound of entrance was small and clean, while that of exit was of the size of a crown piece. The fifth rib was fragmented. Treatment consisted of excision of the comminuted part of the rib, and complete recovery followed.

CASE 7.—A patient aged 26. Distance about 500 yards. The bullet had entered the right shoulder, had passed through the head of the humerus and the glenoid cavity, across the upper part of the thorax, through the left shoulder-joint, passing out through the head of the left humerus. The wounds of entrance and exit were small and clean. The patient spat some blood immediately after receiving the wound and complained of great "stiffness" in the upper part of the chest and in both arms. There were no physical signs of lung injury, emphysema, or hæmothorax. Treatment included hot fomentations to both shoulders, massage, and passive movements. In three weeks the patient was transferred to the convalescent part of the hospital. Six weeks afterwards I was asked by my colonel to see a case in the enteric wards which was puzzling the medical staff, and it turned out to be the case which I have just described. The temperature had for four weeks been spikey, oscillating between 97·5° and 104° F. The respirations were 34 and shallow. No signs of enteric. The left thorax was dull and there were no sounds of respiration. Empyema was diagnosed, and the patient was removed to my surgical ward on the next day. I removed part of the ninth rib on the left side and evacuated four and a half pints of pus. Recovery was complete. I met this man five years afterwards in excellent health.

CASE 8.—A patient aged 32. Distance about 400 yards. While lying down he had been wounded in the right side of the thorax, the bullet entering between the sixth and seventh ribs in the nipple line, and passing downwards and backwards through the diaphragm, liver, right kidney, and out through the back. Blood was passed in the urine twice, and great stiffness in the right side was complained of. Complete recovery in three weeks.

CASE 9.—A patient aged 24. Distance unknown. The bullet had passed through the thorax from right to left. The wounds were small and clean. There was considerable dyspnœa, and the patient had to sit up. The heart must have been traversed by the bullet, for the pericardium was distended with blood. He was carefully watched by a special orderly, and he recovered slowly without any operation. In seven weeks recovery was complete.

Wounds of Abdomen.

CASE 10.—A patient aged 27. Distance over 500 yards. Whilst riding for cover he was shot in the back, the bullet entering below the twelfth rib on the left side and passing upwards and forwards, its point of exit being in the abdominal wall 2 inches to the left of the mid-line and 3 inches below the ensiform cartilage. The stomach must have been traversed as well as the intestine. Recovery was complete without any operation.

CASE 11.—The patient, aged 19, while galloping out of an ambush, was struck in the back at a distance of probably 300 yards. The bullet entered through the right ilium and passed out through the abdominal wall 3 inches to the right of the umbilicus. The wounds were small and clean, and recovery was complete in seven days.

CASE 12.—A patient aged 26. Distance unknown. At the battle of De Wettsdorp he had been struck in the back while carrying a message through severe rifle fire. The bullet had entered the right lumbar region 2½ inches from the vertebræ, and had passed out 1 inch to the left of the umbilicus. The shock was very severe, and the patient could not be moved for two weeks from De Wettsdorp. The entrance wound healed. Exit wound: granulation tissue; pus exuding. There was great pain round the abdominal wound on pressure. Temperature 102° F. The abdomen was opened and about half a pint of pus was evacuated from a localised septic peritonitis. The bullet wound seen in the coil of intestine was completely healed. Recovery complete.

Wounds of Limbs.

CASE 13.—The patient, aged 32, was struck behind the left knee at a distance of about 1000 yards. The wound of entrance was small and clean. No exit. There was great tenderness on pressure over the head of the tibia in front. The X rays showed the bullet to be lodged in the head of the tibia near the surface. The bone was removed to a depth of a quarter of an inch, when the bullet was exposed and removed. (*Note.*—This bullet had entered base forward, but there was no splintering of the bone.) Recovery was complete.

CASE 14.—The patient, aged 21, had been hit on the right shin at a distance of 1000 yards. The wound was over the right tibia, and was 1 inch long. No exit. The X rays revealed the position of the bullet in the tibia near the surface. At the operation the bullet was found embedded in the tibia, having entered lengthways. It was removed and complete recovery followed. (*Note.*—Evidently the bullet had been fired from a worn rifle.)

CASE 15.—The patient, aged 24, had been struck in the right elbow at a distance of about 150 yards. The entrance wound was at the inner side of the head of the ulnar, and the exit wound outside the ulnar 1 inch lower. The X rays showed the olecranon to be separated 1½ inches from the ulnar, and the head of the ulnar to be fractured into three pieces. The wound of exit, which was of the size of a shilling, was dressed daily until it healed. The fragments of the head of the ulnar were wired into place, the olecranon was brought down and wired, and passive movements were practised on the fifth day. Recovery resulted, with an excellent arm.

CASE 16.—A patient, aged 33. Distance unknown. He was struck inside the thigh 2 inches above the knee-joint. The wound of entrance was small and clean. The bullet had had its exit through the external condyle, and the wound was of the size of a two-shilling piece. An X ray photograph showed extensive comminution of the lower three inches of the femur, implicating the joint. The blood-vessels evidently were uninjured. The wounds were dressed daily until they healed. Recovery followed, with a stiff knee after a long illness. (*Note.*—The femur was smashed into about eight pieces.)

These few notes have been taken at random from my note books without any attempt at choosing the cases. It will be seen from the cases quoted that bullets may pass through the most vital tissues without doing any permanent injury. The structures injured in the course taken by some of these bullets would give food for reflection on the part of anatomists.

In the treatment of bullet wounds it must be remembered that there often is great initial shock. The soldier frequently goes into battle in a hungry condition and is more or less tired by marching, and the receipt of a severe injury while in this state is accompanied by shock to the whole system. His mental state while engaged with the enemy also probably contributes its share.

The impact of a bullet against the body is very severe. One patient (the subject of Case 11) who was struck through the right ilium told me that he felt as if he "had been hit by a crowbar wielded by a giant," and that he had been thrown three or four yards out of the saddle.

An empty stomach is frequently the salvation of a wounded soldier who has been hit in the abdomen; a wound of the stomach or intestines seems to close rapidly without any trouble, and so long as there has not been any leakage of gastric or intestinal contents the patient will probably recover in a short time, but if leakage takes place

symptoms of localised peritonitis may be expected, which will require a laparotomy.

Wounds of the bladder usually require a suprapubic cystotomy, as they do not heal readily and generally leak into the surrounding tissues. A clean wound of the kidney seldom requires any interference, but I have had to remove a kidney for a wound which cut the ureter across about 2 inches below the renal pelvis.

What may be called local shock is a condition sometimes encountered in wounds of the soft parts. The great velocity of the bullet seems to shake up the tissues for some little distance round the wound, with the result that there is a feeling of considerable stiffness in the part for several days, and nerves in the immediate neighbourhood, although not touched by the bullet, may be the seat of more or less neuralgic pain for a considerable time. Tissues in this condition are not favourable for operative proceedings, as I found there was a tendency to delay in healing. It is better, if possible, to wait a few days for this local shock to pass off before proceeding to operation.

These notes, based on a personal experience, may be of use at the present juncture, and I hope will be a help to those called upon to treat bullet wounds for the first time.

Green-street, W.C.

ON SOME SIGNS AND SYMPTOMS OF HYPOTHYROIDISM IN SCHOOL CHILDREN.

BY J. LAWSON DICK, M.D. EDIN., F.R.C.S. ENG.

IN the treatment of enlarged tonsils and adenoids by operation one is often struck by the marked benefit produced in certain cases fairly rapidly after operation. Within a month after operation a child who was anæmic, sluggish, dull, and incapable of application to his work will be bright-eyed, alert, and eager to learn. In all probability there is a tendency to operate too frequently and without adequate reason, but in a certain class of case, where the symptoms of obstructed breathing and defective aeration of the blood are well marked, there can hardly be any doubt as to the need for operation. In many of these cases one is frequently struck by a series of symptoms which are fairly constant along a definite line. A typical child will show a certain coarseness of feature, with loose pendulous lips and mouth somewhat open. The complexion is muddy, the general circulation is sluggish, and there is great susceptibility to cold. Such children in the winter are subject to frequent attacks of nasal and bronchial catarrh. The intellect is clouded and dull. Speech is defective, and in many there is actual lalling or stammering. The skin is dry and the hair is coarse and without lustre. In many cases the bones are soft and there is well-marked evidence of rickets. Frequently the incisors show defect in the enamel and a jagged edge of dentine is exposed, a condition which I think pathognomonic of rickets in early infancy.

Now, these children are decidedly backward, and are frequently sent by the teacher for medical examination as suitable for a special school. But they belong to a class different to what we understand when we speak of the mentally deficient child. If the general health conditions of these children are improved, the mental condition will also improve, and the child rapidly returns to the normal standard. In other words, there is no true mental deficiency, but merely delayed development. Study of the symptoms will show that they are all of the nature of defective nutrition, and readily fall into line with the signs and symptoms which we now know to be associated with defective action of the thyroid or hypothyroidism.

In a certain number of cases the children are well nourished, and the flabby, pasty appearance of the child will often suggest the possibility of lymphatism or status lymphaticus. In one such case sudden death occurred under the anæsthetic during an operation for tonsils and adenoids. The child was plump and well nourished, the parents belonged to the better class, and the conditions were presumably all favourable. In other words, we often get deficient thyroid action associated with signs of over-action of the thymus and lymphatic system generally.

Recent work on the internal secretions has been of absorbing interest, and must modify many of our views on the disorders of nutrition. Particularly will this be the case with regard to rickets. There has been, and there still is, a tendency to consider rickets an infective condition, in spite of the fact that neither a specific bacterium nor a toxin has been discovered. But recent work on the thyroid apparatus, and especially work on the parathyroids and the calcium nutrition, makes it much more probable that the ultimate cause will be found in some failure of the internal secretions. The natural result of the success of the treatment of myxœdema and cretinism by thyroid extract has brought about a tendency to prescribe thyroid in all kinds of conditions, often in overwhelming doses, and to give up treatment straight away because the results are not as marked as in the treatment of myxœdema. In the case of the thyroid in its relation to cretinism and myxœdema, we are in the fortunate position of having an internal secretion which is fairly stable and which can easily be administered by the mouth. We have to deal with a gland developed from the ventral surface of the pharyngeal tract and connected by the thyroglossal duct with the alimentary canal, a duct represented in the adult by the foramen cæcum placed behind the circumvallate papillæ of the tongue. So that at some remote period the thyroid, whatever its function then was, apparently poured its secretion directly into the alimentary canal. But in the case of most of the internal secretions the facts are not so simple, and Starling's work on hormones has shown how delicate and complex the interaction between the various glands and tissues of the body probably is, and we can understand how futile it is to hope to be able to harness each secretion as a glycerine extract and apply it to its specific purpose. Thus if we take the various glands of the body supplying an internal secretion—viz., the thymus and lymphatic system, the thyroid apparatus, the pituitary and sexual glands, and the suprarenal bodies—there is no one definite function which we can ascribe to each secretion. There is coöperation and friendly antagonism amongst the various glands, and the sum of their various activities in all probability controls and stimulates growth and nutrition.

The thymus with some reason is held to be conservative or inhibitory in its function, and may be said to be anabolic. In all probability it holds in restraint the activities of the thyroid, whose function is katabolic. The lymphatic system is at its highest development during infancy, the period when growth takes place, apparently out of proportion to the amount of food taken in. There is at

this time a relatively greater number of leucocytes, and the spleen, lymph glands, and Peyer's patches are well developed. Adenoids at such a time tend to develop and the general symptoms of lymphatism are likely to appear. It is probable that in these cases, when the physiological process becomes excessive, there is an over-action of the thymus because of the loss of the katabolic influence of the thyroid secretion, and that the balance between the two glands has been lost. Clinical observation of the backward children I am speaking of certainly bears out the fact that there is increased thymus activity and diminished thyroid activity, and that the results are far reaching and pernicious, especially during the child's school years.

In speaking of the thyroid gland it has been shown that we must rather speak of the thyroid apparatus and differentiate between the thyroid and parathyroid glands, for though each is able to take on compensatory activity in the case of injury or disease of the other organ, or possibly to act vicariously in its absence, still each has special functions of its own. The parathyroid glands have been shown to be associated in quite a special way with tetany. Now, tetany is a disease frequently associated with rickets and with gastric and intestinal disturbance in young children. The work of Loeb on the calcium metabolism of the body is of great interest and importance. The Ca ions which are necessary to all forms of life act as inhibitors of muscular activity, and if it were not for the presence of Ca ions in the blood Loeb showed that all the skeletal muscles would be in a state of constant rhythmic contraction. In other words, calcium in the blood reduces neuromuscular activity. Excision of the parathyroids in animals produces tetany to a certainty, and in tetany there is a marked deficiency of calcium in the organism. Probably in man also parathyroid insufficiency is the cause of tetany, and in children tetany has been found associated with such conditions as hæmorrhages into the parathyroids. Fleischman found that the teeth of all persons he examined who had a history of infantile tetany showed deficiency of the enamel, owing to disturbance of the calcium metabolism.

Two facts bear evidence to a functional activity between the thyroid and parathyroid glands. First, that in post-operative tetany treatment by thyroid gland has been found very efficacious; and secondly, after extirpation of the thyroid gland hypertrophy of the external parathyroids is likely to occur, and similarly hypertrophy of the thyroid not infrequently follows removal of the parathyroids.

These two glandular systems, then the thymus and lymphatic system and the thyroid, including the parathyroids, are largely concerned with growth and nutrition in early childhood. The thymus has a comparatively short life-history. According to Friedenleben it shows a period of progressive development and growth during the first two years of life, after which retrogressive changes occur until adolescence, when involution is fairly complete. That the thyroid is functionally active very early we know from the fact that in cretinism symptoms constantly appear as early as the sixth month, whilst by the end of the first year and during the second year the signs of cretinism are often well marked, but the thyroid remains functionally active long after the period of actual growth is finished. There is undoubtedly a close association between the thyroid and sexual glands. The enlargement of the thyroid at puberty is so common as hardly to be considered at all abnormal, whilst temporary enlargement also tends to occur during menstruation, pregnancy, and lactation. Evidently at these times some special demand is made on the thyroid apparatus, and failure, especially during pregnancy and suckling, is not at all uncommon, as we might expect. So much is this the case that the tetany of nursing mothers was called by Trousseau nurses' contracture. In such cases there is evidently an excessive drain of calcium from the tissues and at the same time the absorption and assimilation of calcium is imperfect. This would suggest that in some disturbance of the action and interaction of the thymus, thyroid, and parathyroid glands we have probably the true explanation of the cause of rickets. Formerly it was taught that if you found that a child had been brought up on the breast you could for all practical purposes exclude rickets. This has by no means been my experience. Constantly in ordinary school work one comes across a succession of children all breast-fed, who are nevertheless all rickety. And when one looks at the depraved conditions under which the mothers live with their children, it would be a matter for surprise if such a mother could ever have a healthy child.

In one school, for instance, in North London recently, where I noted a large number of markedly rickety children, a voluntary worker in the care committee, who had gone into the social conditions of the school with commendable thoroughness, assured me that in this school of 1200 children the large majority of the parents, certainly well over 50 per cent.—her impression was about 80 per cent.—earned less than £1 a week. The families were large, and most of them lived in two or three rooms under very bad conditions. Naturally the rooms were dirty and uncared for, the paper was hanging off the walls, and fresh air and sunlight were excluded as far as possible. Intemperance, as we might expect, still further aggravated the conditions and completed the vicious circle. Prolonged lactation amongst these mothers is the rule, often with the idea of preventing fresh pregnancy and so limiting the size of the family. In these cases there is very likely to be exhaustion of the thyroid, which probably shows itself in the lack of some vital principle from the mother's milk, whilst the persistence of the depraved conditions reacts harmfully on the child and prevents the proper development of its own secretions which might remedy the defect. The poor quality of the mother's milk is not sufficient to explain the tendency to rickets. Thus no deficiency in diet or error in feeding will develop rickets in the karoo of South Africa. The hygienic conditions there are often bad, and ignorance of proper infant care is at least as prevalent as at home, but in the glorious sunshine and the pure rarefied air of the great stretches of open country rickets will never develop. During several years' residence there I can only remember one fairly definite case either amongst the native or the white population. No error in diet will produce rickets under such conditions. Generally, rickets is not common in tropical and subtropical countries. But that there is no special race immunity is shown by the fact that the negro and Italian races suffer severely in the cities of America. And the same applies in London.

Recently in examining a Roman Catholic School, in an Italian family of six, four of the children showed such marked symptoms of hypothyroidism as to suggest cretinism. They were exceedingly dull and backward, and what one often sees in

these children they were moody, vicious, and uncertain in temper. In Canada, though the winter is prolonged and cold, rickets is rare owing to the healthy open-air life. In Vienna, with its double windows and air burnt up by hot stoves, rickets is excessively common. In most cases the blemish of rickets produces permanent effects on the individual, and probably accounts for a good many half failures in after life. But in many wonderful improvement takes place when the child becomes to a certain extent independent of parental authority, and is allowed to lead a more healthy and natural existence by being given the freedom of the streets and of the open air. That the child becomes much stronger at 7 is a common belief amongst mothers and probably has definite grounds in fact. There can be little doubt that sunshine and fresh air are essentials for the proper development of the thyroid and its secretions.

Bearing upon the point that hypothyroidism in the mother can affect the offspring, it is interesting to note that in rats parathyroidectomy of the mother has been known to have a distinct influence on her young. The young were found to be highly sensitive to electrical stimuli, probably due to deficiency of calcium in the blood. Again, the offspring of these rats were so susceptible to parathyroidectomy that in from 4 to 18 hours after operation they succumbed to tetany in its severest form. Achondroplasia is a condition probably allied to rickets, and Seligmann has pointed out that achondroplasic cows are peculiarly liable to produce cretinous calves. Among human beings sporadic cretinism and achondroplasia may occur in different children of the same family. Achondroplasia, obesity, rickets, and myxœdema have been found to coexist in different members of the same family.

Amongst the poor economy and convenience both suggest that the mother should bring up her child on the breast, and as a rule she does, but often with disastrous results. There is a high mortality amongst the children, and the survivors may be stunted, backward, and rickety. It seems to me probable that in these cases the mother's milk lacks some secretion normally supplied by the thyroid and parathyroid glands, and that the lack of this secretion produces disturbance of the calcium metabolism and of the general nutrition of the infant. Leonard Williams has pointed out that in cases of faulty calcium metabolism large quantities of calcium may be administered without effect, whereas small doses of thyroid extract will often produce an immediate beneficial effect on the metabolism even though no calcium beyond that taken in the food is given. In rickets we probably have to do with defective secretion of the thyroid apparatus and a tendency to over-action of the thymus and lymphatic system. In the association of lymphadenoma with osteomalacia we have an example of softening of bone with increased lymphatic activity occurring in later life. The thymus, like a sluggish gland, thrives in depressed conditions, but the thyroid, for its proper activity, requires free circulation of properly oxygenated blood, as indeed is evidenced by its extreme vascularity and the ease with which it swells when any special demand is made upon its activities. Wide streets and ample window space will do much to dispel rickets even in the face of defective feeding. Much of the improvement in the general health after the operation on tonsils and adenoids is due to the freer respiration and the better oxygenation of the blood giving a fresh start to the whole organism. Tonsils and adenoids, rickets, and the lymphatic state are exceedingly common and are frequently associated together, and in the majority of cases, though not necessarily in all, are dependent on hypothyroidism. Their secondary effects are widespread and entail much waste of energy and money in school work. They are responsible for a large proportion of the dull and backward children. The hopeful point is that these children are not true mentally deficient children, but are capable of great and immediate improvement when given suitable conditions.

Casenove-road, N.

BRITISH MEDICAL ASSOCIATION.

EIGHTY-SECOND ANNUAL MEETING AT ABERDEEN.

THE SECTIONS.

SURGERY.

President, Mr. J. SCOTT RIDDLE, M.V.O. (Aberdeen).

WEDNESDAY, JULY 29TH.

Mr. W. G. SPENCER (London) opened a discussion on

The Etiology and Treatment of Carcinoma of the Tongue.

He said that cancer of the tongue in its earliest stages could be cured without deformity. It was preceded by an inflammatory condition which might be termed precancerous, though the term was rather too indefinite. He thought that unless absolute improvement going on to healing occurred within a fortnight after removal of the offending cause recourse should be had to surgery. Oral sepsis was a grave complication and increased the rate of growth of the cancer, but as a cause of cancer it at present remained unproven. Pre-cancerous lesions were marked by a proliferation of the epithelium followed by a small cell infiltration and later by a downgrowth of epithelium. Microscopy performed in the operating theatre was the best way of recognising an epithelioma. When the subepithelial connective tissue became invaded the whole of the area with small cell infiltration should be removed with the lymphatics in the anterior triangle down to the omohyoid; no communication should be made with the mouth. If the growth approached the middle line the lymphatics of the opposite anterior triangle should also be removed. When the muscular substance had been invaded the disease should be removed *en bloc*. This extensive operation impaired articulation and deglutition, and the disease was liable to recur. The results of operation were wholly successful if chronic lesions of the tongue were removed before epitheliomatous invasion of the submucous tissue; there was no fear of recurrence, no deformity, and no risk of life. No important deformity occurred when small cell infiltration had not extended into the muscular substance of the tongue; when this had occurred, even after a block dissection, recurrence was to be feared for several years. Inoperable cases were best treated by the continuous use of non-irritating antiseptics and the occasional use of diathermy.

Professor J. KAY JAMIESON and Mr. J. F. DOBSON (Leeds) communicated a paper on

The Lymphatics of the Tongue,

in which they said that the primary glands were the submental, submaxillary, and some members of the deep cervical chain—i.e., the jugulo-digastric gland, the members of the upper deep cervical group on the great vessels at and below the level of this gland, and some members of the lower deep cervical group, notably the jugulo-omohyoid gland, the anterior outpost of this group which lay on the central tendon or anterior belly of the omohyoid. There were three sets of vessels—marginal, central, and posterior—which ran to the primary glands without interruption. Vessels from the tip and region of the frenum might cross the middle line and reach glands of the opposite side. Some central vessels from the right side of the dorsum might cross the middle line and reach the glands of the opposite side. Some central vessels of the dorsum passed outwards to the opposite glands. The posterior vessels often bifurcated; only the lateral marginal vessels were confined to one side. The deep cervical

glands received vessels from all parts of the tongue, the submaxillary from the area of the circumvallate papillæ, and the submental from the tip and frænum. In cases of cancer of the tongue complete removal of the lymphatics could only be effected by a block dissection. A bilateral operation should be performed for growths of the tip, frænum, and back part of the tongue.

Mr. CHARLES P. CHILDE (Portsmouth) thought that early removal held out the only hope in cases of carcinoma of the tongue. In a doubtful case a microscopic examination should at once be made. Before excision of the tongue the lingual artery or arteries should be ligatured. The glands should be dissected out first; half the tongue should be removed at the same time if the patient were in a fit condition. If a fortnight was allowed to elapse between the two, cancer cells might be carried from the tongue to the neck and lead to a subsequent recurrence. If the operation were performed in two sittings the glands must be removed first, as patients sometimes refused to submit to the second operation for gland dissection. If the disease was situated far back or in the mid line the tongue and glands on one side should be removed and the opposite lingual artery tied; at the second operation the glands of the opposite side should be removed. When the frænum or the floor of the mouth was infected operation might have to be performed in three stages. Reduction in the mortality of cancer was dependent on education of the public in the early signs of cancer, and he hoped that municipal authorities through their health departments would take up this important matter.

Mr. W. MCADAM ECCLES (London) said it was an interesting fact that in those cases in which there had been a pre-existing condition apparently favouring carcinoma only one patch became malignant. Similar conditions were found in the mucous lining of the bladder and in the skin after X ray damage. He asked why did one patch become malignant and the others remain innocent? In cases of carcinoma of the tongue free removal of the glands was the most important part of the operation; the glands should be dealt with first. He agreed with Mr. Spencer that the portion of the tongue removed should go beyond the small cell infiltration.

Mr. E. W. HEY GROVES (Bristol) thought that a V-shaped division of the jaw gave the best exposure, and he recommended the use of intratracheal ether.

Mr. T. K. DALZIEL (Glasgow) thought that intratracheal ether was preferable to tracheotomy.

Professor F. M. CAIRD (Edinburgh) denied the existence of a pre-cancerous stage and the association of cancer with syphilis.

Mr. A. LUCAS (Birmingham) thought that 50 per cent. of cases were associated with syphilis and hard arteries. The recognition of the pre-cancerous stage was important, and he thought that Syme's was the safest operation.

Mr. SIDNEY A. BOYD (London) read a paper on

The Newer Indications for Removal of the Spleen.

He gave a short account of splenic anæmia, chronic acholuric jaundice, pernicious anæmia, splenic anæmia of infants, Gaucher's disease, splenomegalic cirrhosis, acute yellow atrophy of the liver, and simple splenomegaly. He gave indications for treatment and thought that splenectomy benefited all these conditions. He mentioned three cases in which he had performed splenectomy.

Mr. W. I. DE COURCY WHEELER (Dublin) related the end results of three cases of abdominal aneurysm treated by Colt's apparatus. The first case was now alive and well after four years. The consolidation of the aneurysm was such that the points of the wire could be felt through the abdominal wall under the skin. He thought that this was due to the obliteration of the cavity in which the wires had been originally placed. The second case was seen nine months after operation; he passed a medical board and subsequently became a chauffeur. The third case died from intestinal obstruction. He strongly urged the use of Colt's apparatus and condemned electrolysis. The symptoms were increased for the first few days after operation, especially pain in the back. His cases had first been treated with salvarsan and mercury; immediately after operation horse serum was injected to favour coagulation. He thought that the secret to success, next to asepsis, was the introduction of the cannula so that blood flowed freely through it before the wire was inserted, otherwise the lumen might not be reached.

THURSDAY, JULY 30TH.

Mr. ROBERT JONES (Liverpool) opened a discussion on

The Surgical Treatment of Arthritic Deformities.

He said that cases classified as tubercular were often hereditary, septic, or nervous in origin, as the deformities were very similar. The deformities might appear either early or late, and they always reflected discredit on someone. Prevention of deformity was more important than its correction. In view of the possibility of ankylosis joints should be placed in the position of maximum use. Full extension was the best position in which to place the hip and knee, though a little flexion was no disadvantage; the ankle should be fixed at a right angle, the elbow a little below; the wrist should be kept hyperextended. Tubercular deformities should be corrected in the active stage, without force, slowly and gently. When the deformities were fibrous in character mechanical measures were sufficient to overcome them; when bony deformities had taken place more radical measures were necessary. Bony ankylosis was rare in children, fibrous or unsound ankylosis increased with use, whilst bony ankylosis was fixed. Tuberculosis in the young was benign, but in the adult it was very different and required early and radical treatment. He said that manipulation, osteotomy, wedge exsection, exsection of the joint, pseudoarthrosis, arthroplasty, and transplantation were the necessary procedures for deformities in the short fibrous and osseous type. Manipulation with extension could be employed in young children. Osteotomy was most successful on the femur for deformities of the hip and knee with bony ankylosis. Transtrochanteric section should be performed if the neck was not absorbed, but a wedge-shaped osteotomy through the base of the trochanter if absorption had taken place; the wedge shape was necessary to secure sufficient abduction, but should not be performed if flexion were acute. He thought that subtrochanteric division should be reserved for cases of unsound ankylosis with but little flexion. Bony ankylosis of the knee should be treated by removal of a suitable anterior wedge. For bony ankylosis of the shoulder osteotomy of the neck should be performed and the arm rotated inwards and abducted. He said that of recent years attempts had been made to mobilise ankylosed joints. Arthroplasty entailed separation and remodelling of the bones with the insertion of a flap of tissue; it was immaterial what tissue was used. It was difficult to obtain good results in the knee. Bony spinal fixation was useful in an adult with deformity of the lower lumbar region; deformities of the rheumatoid or septic group once the disease had ceased were amenable to radical measures. Deformity must be anticipated; arthroplasty was useless without stability; osteotomies and exsections were rarely required in children. The deformity from tubercular joints could be reduced. Osteotomy should be performed in sound ankylosis of the hip; the site was dependent on the nature and extent of the deformity. It should be accompanied by division of the adductors. Arthroplasty of the hip was often successful after septic cases. There were now many procedures to give relief in osteoarthritis of the hip.

Mr. C. MAX PAGE (London) thought that it was difficult to maintain the knee in a proper position by the usual forms of splintage. He had found this difficulty to be overcome by the apparatus he had shown before the Royal Society of Medicine. He thought that sound ankylosis of the hip-joint with but little destruction of the head and neck was best treated by manipulation. Spinal anæsthesia greatly reduced the shock associated with operations on the large joints.

Professor J. MARNOCH (Aberdeen) had obtained good results by arthroplasty in cases of ankylosis of the elbow. He utilised a flap from the fascia lata.

Mr. HEY GROVES had found that no bony ankylosis occurred in the knee-joint when actively inflamed. This difficulty could be overcome by a long bone graft taken from the tibia.

Mr. H. M. W. GRAY (Aberdeen) thought that bone grafts were of no use unless they were long. In spinal plastic cases they should be laid against the bare laminæ and the periosteum placed in contact with periosteum.

Mr. MCADAM ECCLES emphasised the importance of keeping the wrist in a position of dorsi-flexion during inflammation of the joint. He had utilised the prepatella bursa with success in arthroplasty on a child; the bursa was taken from the mother.

Mr. DE COURCY WHEELER had obtained excellent results from cheilotomy in cases of rheumatoid arthritis.

Mr. E. S. ROWELL read a paper on

The Mechanics of the Human Foot, with Special Reference to Flat-foot.

He (as a professor of engineering) considered the foot under statical conditions, and found that the tensions in the supporting tissues were greatest when the sole of the foot was inclined at 23° to the ground. Statical considerations did not indicate any value either in the method of raising the heel or in the "Thomas-Jones" method of turning the feet inwards and inclining the soles transversely. Dynamical considerations lent favour under certain conditions to the high heel and discredit to the "Thomas-Jones" method. Physiological considerations lent support to both methods and suggested the futility of mechanical analysis.

Mr. HEY GROVES demonstrated some new methods employed in the treatment of fractures.

Mr. A. DON (Aberdeen) showed how easily a portion of rib could be utilised as a splint in cervical caries.

FRIDAY, JULY 31ST.

Mr. H. M. W. GRAY opened a discussion on

Anoci-association, or the Evolution of the Shockless Operation.

He said that after an experience of nearly 20 years he had come to regard local anæsthesia as the chief, the most important, factor in the prevention of pain and shock. General anæsthetics and narcotics were adjuvants to local anæsthesia. Novocaine in ¼ to ½ per cent. was non-poisonous. This could not be said of general anæsthetics or narcotics. Ether and to a greater extent chloroform, from their chemical action, exerted an undesirable effect on the brain cells. Morphia and omnopon had not this effect, and they prevented cerebral irritation. For this reason he preferred narcotics to general anæsthetics. This method reduced the amount of general anæsthetic to a negligible quantity. Prevention of mental excitement was nearly as important as the prevention of pain; sedatives reduced apprehension. Dr. Crile had aroused fresh interest in the subject, though it still received inadequate appreciation. The use of a general anæsthetic prevented a proper appreciation of Crile's method. Mr. Gray gave an account of the technique of the use of local anæsthesia, combined when necessary with the administration of a narcotic and ether. Elaborate preparation of the patients was unnecessary; external impressions during the preparation and the actual operation should be excluded. After an injection of omnopon the eyes should be covered and the ears stopped. The patient should be properly clothed and the temperature of the theatre regulated. Cutting instruments should be sharp. The tissues, especially the parietal peritoneum, pleura, and mesentery, must not be roughly handled. Accurate and immediate hæmostasis was desirable. Normal saline at 100–103° F. should be used for irrigation or cleansing. The wound should be tightly sutured and a proper dressing applied. In abdominal cases a firm binder had a good effect during the first few hours, as it overcame any tendency of the patient to bleed into his own vessels and allowed the immediate use of Fowler's position. He thought that in view of the immediate and remote effects of anæsthetics it was right to dispense with them as much as possible. Chloroform was the most toxic, and it was rapidly becoming obsolete in surgical practice. Open ether was safer than nitrous oxide without a skilled anæsthetist; it was cheaper and did not require an elaborate apparatus. By the combination of local anæsthesia and narcotics the amount of ether required was negligible. Ether was only given if the patients remained too sensitive or complained of pain. The best narcotic was a combination of omnopon and scopolamine; a dose of veronal was useful on the evening before operation. He said that he had long ago given up spinal anæsthesia, and now entirely relied on nerve blocking and local infiltration. The intercostal and lumbar nerves should be blocked as near the costal margin and as far back in the loin as possible. In this way the whole of the abdominal parietes could be anæsthetised; the skin and subcutaneous tissues should also be infiltrated along the line of incision. A series of operations could be carried out just as quickly as with the use of general anæsthetics. According to the length of the incision and the depth of the abdominal wall, 100–200 c.c. should be used. After 10–15 minutes the operation could be commenced. Further injections might be required into the peritoneal attachments of the organs operated on. The pulse gave a fair indication of the amount of shock caused. Young adults in whom the dose of omnopon had not been sufficient to make them sleep frequently had a meal on returning to bed. When larger doses had been given patients often slept for four to six hours, and woke up without any knowledge of the operation having been done. In the large majority little or no pain was complained of after. The solution he used consisted of novocaine ¼ per cent., pot. sulph. 4 per cent., and 12 drops of synthetic adrenalin in 100 c.c. The potassium salt enhanced and prolonged the action of the novocaine. He recommended a syringe with a capacity of 40 c.c. In over 2000 abdominal sections performed in three years only two had suffered from shock. He had endeavoured to combine efficiency, safety, and cheapness.

Mr. C. F. CUTHBERT (Gloucester) thought that Crile's method saved both time and trouble. The solution he used was ¼ per cent. novocaine and ½ per cent. urea hydrochloride with adrenalin.

Mr. DE COURCY WHEELER thought that general anæsthetics would disappear in the near future, except in rare instances. Crile's method not only prevented shock but also diminished the unpleasant after effects of operation; even in major operations such as pylorectomy no sensation of the operation was felt on the next day. Shock from major operations was prevented mainly by methodical and gentle handling.

Professor J. T. J. MORRISON (Birmingham) said that the choice of anæsthetics had been greatly increased in recent years. Spinal anæsthesia deserved a high place in the surgeon's equipment. Compared with general anæsthesia it prevented shock; compared with local anæsthesia it was simple and time-saving. A single injection of 20 drops of tropacocaine sufficed. It had the advantage that the puncture was made away from the field of operation and could be used in septic cases.

Mr. A. FULLERTON (Belfast) read a paper on

The Treatment of Vesical Papillomata by the High Frequency Current.

He said that the method was not as yet generally accepted. The application of the current was painful when the bladder wall was approached, but the growth could be destroyed with but little discomfort to the patients and they could follow their employment during treatment. He recorded three cases successfully treated without recurrence.

Mr. HEY GROVES demonstrated a form of bed-rest for maintaining the Fowler position.

Dr. G. H. EDINGTON (Glasgow) read a paper entitled "A Method of Opening the Abdomen for Appendicectomy."

Mr. MAX PAGE read a paper on

The Treatment of Certain Cases of Appendix Abscess.

He said that the rules for the treatment of localised acute appendicitis varied both as to the time of its performance and its technique. Statistics supported the conviction that surgical interference was best adopted within 48 hours, but cases still continued to come to the surgeon after the third day. In these cases there was a likelihood of residual abscess formation. Of 359 cases treated at St. Thomas's Hospital the death-rate was 6·9 per cent.; the mortality was due to the virulence of the pus. He said that there were two ways to obviate this—one was to wait 14 days, when the pus became sterile, the other was to operate so that the pus did not come into contact with uninfected peritoneum. The first method was unsatisfactory; the latter had proved satisfactory, and no death had occurred in 19 cases. The method was to pack off the uninfected peritoneum with gauze and the insertion of a cigarette drain to one side of the inflammatory mass, and to suture the wound.

Mr. D. P. D. WILKIE (Edinburgh) read a paper on

Acute Appendicitis and Appendicular Obstruction.

He said that there were two types of appendicular trouble—namely, acute appendicitis and acute appendicular obstruction. The former was characterised by the signs and

symptoms of inflammation, the latter by the signs of an obstructive lesion. In the later stages of both these lesions it was difficult to identify the primary lesion, but an accurate history gave a strong indication. He thought that it was important to differentiate obstruction apart from inflammation, as in the former perforation occurred more rapidly. He said that the causes and sequelæ of appendicular obstruction varied under different conditions, especially diet and fæcal content. The sequelæ of obstruction were a mucocele, empyema, and acute obstruction with gangrene. In the artificially obstructed appendix in cats the effect was dependent on the fæcal content. He concluded that the prevalence of gangrenous appendicitis in Western nations was due to meat-eating.

NEUROLOGY AND PSYCHOLOGICAL MEDICINE.

WEDNESDAY, JULY 29TH.

President, Dr. F. W. MOTT, F.R.S. (London).

The PRESIDENT, after making a sympathetic allusion to the recent death of one of the vice-presidents of the section, Dr. James Neil, of Oxford, opened a discussion on

The Diagnosis and Treatment of Parenchymatous Syphilis.

He declared that the terms parasyphilis and metasyphilis were now out of date in view of the discovery of the spirochæta pallida in the central nervous system of patients suffering with tabes and general paralysis. There was a pathological analogy between sleeping sickness and tabes, and it became necessary to determine the mode of infection of the central nervous system in such cases. After experimental ligaturing of the main cerebral vessels he had found that there was no shrinkage of the brain, and had been able to show that the perivascular and subarachnoid spaces became greatly distended with cerebro-spinal fluid, which he regarded as the lymph of the brain. It was possible to show that there was direct irrigation of the fluid from the subarachnoid spaces to the perivascular spaces and also to the perineuronal spaces. Allusion was made to the work of Noguchi and Moore anent the presence of the spirochæta pallida in the brains of patients dying with general paralysis. He (the speaker) had examined 100 brains of general paralytics, and found the organism in 66. Sometimes it could be discovered in a few minutes; at other times it might be searched for in vain. He described the usual form of the spirochæta, and explained that it appeared to multiply by transverse mesial division. He had remarked that it was often found in great quantity in cases which had previously been treated with intravenous injections of salvarsan or neosalvarsan. It was observed that spirochætæ might apparently break up into granules, but it was a matter of doubt whether these granules might develop again into spirochætæ. There was no evidence of the occurrence of a sexual cycle in the life-history of the spirochæta; in fact, he doubted whether the organism was really a protozoon. The absence of differentiation in structure and the fact that the two ends were alike suggested that the organism was not a protozoon. He believed that the explanation of the elective degeneration in tabes was that the spirochæta developed a proteolytic ferment, which passed in a particular direction owing to its dissemination by lymphatic paths. As far as the treatment of parenchymatous syphilis was concerned, the speaker said he thought tabes was more likely to be influenced by salvarsan and mercury than general paralysis was. He doubted, however, whether salvarsan was of much service in these diseases. He referred to Professor Oppenheim's recent declaration that that drug had in his experience proved unsatisfactory in tabes and general paralysis. It was well to remember that cases of general paralysis often improved spontaneously and quickly. The view he took was that some spirochætæ were more resistant than others, and that for anatomical reasons circulatory stasis in the frontal lobes favoured the selection of that site as a nidus for spirochætæ. He also alluded to the Wassermann reaction, which he considered of extreme importance. Before it came into use he had been able to diagnose general paralysis accurately in only 75 per cent. of cases; with its help he could make a correct diagnosis in 98 per cent. This had reference to the cerebro-spinal fluid. In the blood, provided the technique was reliable and adequate maximum amounts of serum were taken (0·2–0·5), the reaction was positive in just as many cases. The serum test in 300 cases of general paralysis was positive in 98–99 per cent., though sometimes it was only slight or moderate. The address was illustrated with lantern slides.

Dr. FELIX PLAUT (Munich) said he had no doubt that metasyphilis, so-called, was really syphilis. Nevertheless, there were many difficult problems still to be solved. He referred to the question whether there was anything specific in the occurrence of the spirochæta in the brain in general paralysis. Its mere presence was not sufficient to differentiate between lues cerebri and general paralysis; the spirochæta was not characteristic of general paralysis alone. In fact, little was gained by the abandonment of the term metasyphilis. He thought that experimental syphilis would aid much in the clearing up of these difficulties. Two questions suggested themselves for consideration. Was there a special variety of the spirochæta which produced general paralysis, or was there produced a biological modification of the organism in the individual affected? He thought it quite improbable that there were special neurotropic properties in the spirochætæ producing tabes and general paralysis, and inclined to the view that they acquired special properties as a result of their settling in the nervous system. General paralysis was not merely a disease of the central nervous system; in that disease other parts of the body were involved and definite disturbances of metabolism took place. As for treatment, he believed that salvarsan could destroy the spirochæta, but admitted that our methods were still inefficacious. The organism should be combated as soon as ever the body became infected.

Sir T. CLIFFORD ALLBUTT (Cambridge) asked if any distinction could be drawn between degenerative changes in the coats of blood-vessels produced from within and irritative changes produced from without. He himself thought this could not be determined with definiteness. He mentioned cases of syphilitic dementia, and asked if they were to be regarded as larval general paralysis or were to be separated from that disease. He alluded to the characteristic mental symptoms of general paralysis, and pointed out the difficulty of explaining them in view of the scattered nature of the pathological lesions, unless, conceivably, the spirochæta exercised some local action.

Dr. JAMES MCINTOSH (London) said that parasyphilis was tertiary syphilis, and consisted of a parenchymatous encephalitis and an interstitial encephalitis. He believed that the central nervous system became affected in the acute stage of syphilis, and that a change took place in the susceptibility of the nervous tissues. Some spirochætæ lay dormant, and later, for an unknown reason, became active. He considered it proved that it was impossible to reach the nervous tissues by intravenous injection of arsenic, and accordingly treatment of parenchymatous syphilis by such methods was a failure. As for intraspinal methods, he and his collaborators at the London Hospital had not obtained any definite or permanent results. He thought that intraspinal methods could have no permanent vogue.

Dr. S. A. KINNIER WILSON (London) said that recent advances in their knowledge of the relation of the spirochæta to tabes and general paralysis made it incumbent on the physician to revise his conception of these diseases. At the same time he felt it necessary to protest against the tendency to regard tabes solely as a disease of the posterior columns or general paralysis as a disease solely of the cortex. These simplistic views were misleading, and too hard and fast a pathology would not help scientific treatment. In tabes it was common to find the spinal cord vessels and the meninges infiltrated to a greater or less extent. The anterior horn cells were frequently not normal. The sympathetic system was frequently involved. In general paralysis there was very much more than a mere parenchymatous disease, in the strict sense. The cord was not normal in general paralysis; the ductless glands, similarly, and the viscera often showed changes. In a word, notwithstanding certain selective actions, tabes and general paralysis were diffuse, unsystematised diseases; at least, diffuse changes always accompanied any systemic changes. He thought that it was desirable to emphasise the importance of the syphilitic virus or toxin, apart altogether from the presence or not of recognisable spirochætæ. Tabes was a common disease, but spirochætæ in that condition were conspicuously rare. He thought, therefore, that treatment devoted to the destruction of spirochætæ was bound to be

inefficacious, unless it came at the very earliest stages of infection. Treatment could not be rational until our knowledge of the pathogenesis of these diseases was more complete. His own experience with intraspinal methods was not encouraging.

Dr. W. ALDREN TURNER (London) referred to 8 personal cases (6 tabes, 1 primary optic atrophy, and 1 general paralysis) where treatment was by the intraspinal injection of salvarsanised serum. In these, subjective symptoms were relieved, but he could not be sure whether to attribute this solely to the action of the salvarsan. No improvement in objective signs had been obtained. The mental symptoms of the case of general paralysis had for the time being improved. In all the cases the pleocytosis of the cerebro-spinal fluid had been reduced. He concluded that the results obtained were no better, no more permanent, and no quicker than those obtained by mercurial treatment.

Mr. J. E. R. MCDONAGH (London) referred to the leucocytozoon syphilidis, as he termed it, and its life cycle, and said he had obtained evidence of its different phases in nine out of ten cases of general paralysis examined by himself.

Dr. T. GRAINGER STEWART (London) said it was often difficult to diagnose clinically between parenchymatous syphilis (tabes and general paralysis) and interstitial syphilis (cerebro-spinal syphilis), and the practitioner might have difficulty in deciding what form and method of treatment to adopt. He alluded to the desirability of complete test investigations of clinical cases, and pointed out the unsatisfactory nature of the diagnoses frequently made. He narrated a personal case of spinal syphilis—one apparently of the mixed type above referred to—in which very satisfactory results had followed intraspinal treatment, and he was prepared, if the case continued to progress, to hail it as a cure.

Dr. H. CAMPBELL THOMSON (London) said his experience was that intraspinal treatment both of tabes and of general paralysis was unsatisfactory, although the subjective symptoms might improve.

Dr. W. FORD ROBERTSON (Edinburgh) upheld the view that the spirochæta pallida was not the *causa causans* of syphilis of the tabes and general paralysis type. He thought the admission of failure of treatment devoted to destroying the spirochæta proved this, as also the experimental failure to produce general paralysis in animals. He considered that general paralysis was due to a general invasion of the organism by members of the diphtheroid group.

The PRESIDENT briefly replied.

THURSDAY, JULY 30TH.

Dr. C. G. JUNG (Zürich) opened a discussion on

The Significance of the Unconscious in Psycho-pathology.

By way of preliminary remark Dr. Jung said that a thing might be unconscious in two ways: from the physiological standpoint, and from the psychological standpoint. He proposed to deal solely with the latter. By the general term "the unconscious" he meant the sum of psychological events that were not apperceived; all those psychic events which did not pass the threshold of consciousness, but flitted by in subliminal phantom forms, constituted the unconscious. The idea was far from new. Leibnitz had spoken of "perception insensible," of shadowy representations reaching consciousness only in an indirect way. The importance of the unconscious was very considerable; one wished to know what was the relation of this unconscious material to the development of the psychoses. To understand this aright, one had first to ascertain how unconscious material behaved in normal people, and the best method to adopt was to find first what was in consciousness, to examine all the conscious psychic content and then exclude it; the residuum was the unconscious. Dr. Jung showed there was reason to suppose the relation between the conscious and the unconscious was a compensatory one; compensatory vices were part of the essential content of the unconscious; unconscious virtues compensated for conscious deficiencies. There was danger, nevertheless, in expressing the facts in these paradoxical forms; moreover, the thing was not really so simple. The manner of a man's philanthropy depended both on his hereditary character and on the motives involved, and these elements were of signal importance in the determination of conduct. But the fact of compensation was none the less of significance. Dr. Jung then proceeded to discuss where and in what manner the unconscious manifests itself in pathological conditions. Its action was chiefly observable in the development of the psychoses. He held that unconscious psychic events produced many of the phenomena of hysteria and other psychoneuroses. The hallucinations of the insane were the outcome of unconscious processes; they were not derived from disease of brain cells. Hallucinations occurred in normal savages and normal civilised individuals. They were normal psychic events forcing themselves across the threshold from the unconscious in an abnormal way. The normal functioning of the unconscious broke through normal consciousness in an abnormal fashion. In dementia præcox it could be shown that the unconscious obtruded itself unduly. "Mental balance" was a scientific term and not a mere figure of speech. The individual's conscious life might be one-sided, but, failing to realise this, he might battle against his unconscious, that is to say, against what were really compensating elements in him. Lack of harmony between the conscious and the unconscious was at the basis of many psychoses. In paranoia the patient might be constrained to defend himself against external criticism, simply because he was too much threatened from within. The tearing asunder of the pairs of opposites constituted by conscious and compensating unconscious elements explained the pathogenesis of the psychoses and psychoneuroses.

In the absence of Dr. ERNEST JONES (London) his contribution was read by Dr. M. D. EDER (London), one of the secretaries. Dr. Jones said there were three main connotations, three current uses, of the term unconscious. 1. The term unconscious was a synonym for non-mental—e.g., the unconsciousness following a brain injury or during the administration of an anæsthetic. 2. There was what might be called the "limbo conception." The unconscious was a state of neglect or oblivion: processes relegated to it vanished. It was a purely passive state; it possessed no initiative, no dynamic. 3. The psycho-analytic view of the unconscious was purely inductive, and based on the examination of actual cases. According to this view-point, unconscious elements were incompatible with consciousness, and were therefore repressed by active inhibiting processes. These unconscious elements lived an underground existence; they derived mostly from the infantile period and were predominantly sexual. In a very real sense the child was father of the man. The unconscious was a region of mind which had great potentialities. Its significance for psychopathology was very considerable: (1) it explained otherwise incomprehensible delusions, impulses, phobias, &c; (2) by the process of sublimation crude unconscious elements might be renounced, transformed, and so utilised for the individual; and (3) it furnished an indispensable key to the treatment of psychic affections.

Dr. EDER referred to the reality of unconscious mental processes as revealed by psycho-analysis, and furnished illustrations of the action of the unconscious mind in the vagaries of certain patients suffering from psychoses. He withheld his assent from the view that the conscious was essentially moral and the unconscious essentially bestial, and expressed his concurrence rather with the views of the unconscious advocated by Dr. Jung.

Dr. W. LESLIE MACKENZIE (Edinburgh) complimented Dr. Jung on the lucidity of his paper and on the excellence of his idiomatic English. He said the terms unconscious, subconscious, co-conscious, pre-conscious, were questions of definition rather than of fact. He felt there was a tendency to lose sight of the double aspect of mental phenomena when the unconscious was concerned; the study of these must always be a double study; the subject-object relationship always held good. He asked why there should be a conflict between the conscious and the unconscious; if there was such a conflict, what was the impulse that led to it? He asked, further, what was the nature of the material recovered from the unconscious; was it of the same order of things as pre-experienced things? He regarded the unconscious as the sum total of experiences that had ceased to be useful. He alluded to the Freudian view of the necessity for repression as the motive for experiences passing into the unconscious, and pointed out an analogy between this and Bain's "law of conservation": all disagreeable experiences tended to cease; all agreeable experiences tended to continue.

Dr. CONSTANCE E. LONG (London) regarded the unconscious as a friend as well as an enemy, in contradistinction

to the strictly Freudian view, and said they need not always look to the lower to explain the higher.

Dr. H. CRICHTON MILLER (London) alluded to the technique of psycho-analysis, and pointed out how frequently the physician was convinced of the genuineness of the action of the unconscious mind by the personal reaction of the patient when a correct interpretation of his symptoms was arrived at. He said a revolt had taken place against the deterministic philosophy of Freud built up by him on the basis of his findings in pathological cases, and alluded to the gratitude he felt towards Dr. Jung for furnishing a more satisfying view of the unconscious. The real point at issue was the question of the evil of the unconscious. According to Freud life was against us; in the unconscious we were dealing with experiences which had to be fought against. According to Jung, life was with us. The latter's essential conception of the unconscious was one, not of conflict, but of opportunity. Dr. Miller emphasised the importance of possessing a "psychic outlook" in dealing with pathological cases. He meant thereby the desirability of not ignoring the psychical elements in a given case, although physical causes for disease might be obviously present.

Dr. R. H. STEEN (Dartford) agreed that the explanation of the phobias, stereotyped acts, and generally the irrational behaviour of patients suffering from one or other psychosis, was to be sought in the action of the unconscious mind. The unconscious, however, in his opinion, explained only the form the psychoses took and not why they arose. Under the influence of an anæsthetic a patient might behave in such a way as to reveal the action of the unconscious, but the cause of the phenomena was the anæsthetic, not the unconscious. He emphasised, therefore, the importance of the toxic element in the development of many psychoses, and advanced evidence in support of this view.

Dr. T. C. MACKENZIE (Inverness) agreed with much that the previous speaker had said, and showed the importance of not overlooking physical lines of treatment in dealing with the psychoses by giving the details of one or two illustrative cases.

The PRESIDENT, in summing up the discussion, said he hoped for and believed in the possibility of a physiological explanation of much that passed current as essentially of the psychical order of things, and alluded to disturbance of biochemical equilibrium in the ductless gland system as an important factor in the matter.

FRIDAY, JULY 31ST.

Dr. KINNIER WILSON read a paper on

The Temporo-sphenoidal Forms of Idiopathic Epilepsy.

He said that, following Hughlings Jackson, it was desirable to speak of "the epilepsies" rather than epilepsy. Among the various types was one of which he had seen in private and hospital out-patient practice a considerable number, characterised by an aura of a peculiar and elaborate kind, formerly described as a "dreamy state." This so-called dreamy state was often, but not invariably, associated with a subjective sensation of taste or of smell. The cases to which Dr. Wilson referred were all of genuine idiopathic epilepsy, and were not cases of gross brain lesion. No attempt had hitherto been made to classify the varieties of the curious psychical aura above mentioned, but it might be provisionally subdivided as follows: (1) the "déjà vu," or "familiarity" type; (2) the "strangeness," or "unreality" type; and (3) the "memory" type. There was also (4) an "abortive" type. Clinical instances exemplifying these were given. It was next shown that these types might be combined, and that entirely analogous states occurred occasionally in individuals supposedly normal; that both (1) and (2) were noted with considerable frequency in psychasthenia; and that instances of (3) had been recorded in the pathological states of drowning, hanging, and choking. It was argued by Dr. Wilson that the occurrence of such auræ in other pathological states provided a clue to their significance when they occurred as the aura to an epileptic attack. It was suggested that the removal of a higher inhibiting cortical level allowed phenomena usually subconscious to rise momentarily into complete or incomplete consciousness, whereby a double mental state was for the moment constituted, of which the patients were often very well aware. The knowledge gained by the investigation of organic lesions of the uncinate region of the temporal lobe indicated that the seat of the disturbance in the particular type of idiopathic epilepsy under consideration was, at first at least, in that cortical region, and it was matter for discussion whether in the vast uncharted area of the temporal lobe any of the phenomena above mentioned could find a physiological localisation.

Dr. ALDREN TURNER read a paper on

Epilepsy and Brain Tumours.

He said that he referred to those cases of symptomatic epilepsy which were characterised by the recurrence of fits over long periods of time before the symptoms of intracranial tumour made themselves known. Years might elapse before the tumour revealed itself in any recognisable way. The fits might occur in series, during waking or sleeping, exactly as in idiopathic epilepsy. Further, the bromides might have an arresting action on the fits. All these factors would suggest true epilepsy, but in the end that diagnosis was found to be incorrect. In most of such cases the fits began between the ages of 21 and 32; they did not correspond with the age of puberty, hence the condition might be described as one of late epilepsy. The fits were generalised epileptiform seizures, with or without a local warning. Sometimes they were of the nature of vertiginous attacks. Three main groups might be distinguished according to the site of the tumour. 1. Epilepsy and fronto-parietal tumours. This type of fit was either generalised or focal, associated with unilateral localised twitching, or with disturbances of speech if the tumour was left-sided. Allusion was made to the so-called Broca fit. 2. Epilepsy and temporo-sphenoidal tumours. The fits were either generalised or with a focal commencement of the uncinate type. 3. Epilepsy and parieto-occipital tumours. The fits might be generalised or focal. Dr. Turner believed that tumours involving the cortex and subcortical tissue anywhere might give rise to fits identical with those of idiopathic epilepsy.

The foregoing papers were discussed together.

Dr. GRAINGER STEWART said that in his experience dreamy states occurred in tumours of the frontal lobe as well as in temporal cases. He alluded to the occurrence of what he considered analogous symptoms in migrainous attacks. Their basis might be a disturbance of the circulation. It was desirable to distinguish two types of intracranial lesions associated with epilepsy. He thought epilepsy usually would be found associated with those tumours which were intracranial but extra-cerebral. As a criterion of diagnostic importance, he thought that in fits from tumours the recovery from the disturbance produced by the fit was not so immediate as in the true idiopathic variety.

Dr. CRICHTON MILLER, Dr. EDER, and the PRESIDENT continued the discussion.

Dr. CRICHTON MILLER read a paper on the Psychic Factor in Insomnia, and Dr. T. C. MACKENZIE one on Some Considerations regarding Insanity in the Highlands.

PATHOLOGICAL MUSEUM.

The specimens arranged in the pathological department of the University formed a small but interesting collection illustrative of the work done in the various sections and of the special lines along which the museum committee had directed its energies. Of special note were the sections devoted to recent research and to the history of medicine, and in addition one large room was given up entirely to a display of microscopic specimens. While we only touch upon some of the more salient features of the exhibition, on account of the limitations of space now imposed upon us, we recognise that others were deserving of mention.

Tropical Medicine.

In this section Dr. Daniel Anderson, of the Honeyman-Gillespie Trust, exhibited many specimens obtained from the West Indies. Amongst these we noted Jamaica ticks which played a great part in producing relapsing fever; larvæ from ankylostomes, the incidence of which, amongst the West Indian coolies on the sugar estates, was very great. It appears that fully one quarter were affected, and, in order to combat the great loss of labour resulting, preventive measures have now been adopted; the coolies, one week before landing upon the islands, are given thymol so as to deprive them of their ankylostome larvæ. There was also a large variety

of venomous and non-venomous snakes from different countries.

The collection of larvæ of Fasciola hepatica, obtained from the livers of cattle in Chile, pointed an important lesson. It had been noted that meats from Valparaiso and the Argentine Republic had become yellow and bitter, and an investigation into this by Dr. Anderson showed that it was due to the liver fluke, and as the liver and other viscera were all removed in the slaughter-house and minced up into meat bricks at once the cause could not be determined in this country. It is possible, however, that this was unintentional on the part of the slaughterers, who mistook the flukes for clots of blood.

Another interesting specimen was a fœtus affected with small-pox from a woman who died from that disease. There was also a large collection of photographs of cases of pellagra, which were of special interest, seeing that the disease has lately been described in this country.

Dr. P. H. Bahr, of the London School of Tropical Medicine, exhibited a series of sections illustrating the pathology of sprue, that peculiarly tropical diarrhœa of obscure etiology. They consisted of naked-eye and histological specimens of the entire alimentary tract and the stools from various cases. The specimens of ileum were intended to demonstrate that the intestinal changes described as pathognomonic were to a great extent the result of post-mortem decomposition. Sections of the tongue and œsophagus showed remarkable invasion of mycelial threads of the thrush fungus; around this there was an inflammatory reaction. The mucosa throughout the intestinal canal was invaded in a similar manner by yeasts, and the film from the stool of a fatal case was also swarming with yeast cells. Dr. Bahr also demonstrated a hyaline degeneration of the other viscera, and especially of the endothelial cells of the splenic veins. To demonstrate the extreme blood destruction in the terminal stages of sprue he showed a liver giving a marked Prussian blue reaction for free iron and a blood film exhibiting grave secondary anæmia. He showed also a series of coloured drawings illustrating the tongue changes in what he called "tongue sprue," which he considered to be due to the Monilia albicans which, under special conditions, develops peculiar pathogenic properties.

Another series of photographs illustrated the tertiary bone lesions of yaws in Ceylon and Fiji which by some authors are not even recognised. This included deformities of the tibia and ulna, synovitis, periostitis, ulceration and even loss of the soft tissues of the nose, epiphysitis, &c. Amongst the good collection of specimens mounted in glycerine jelly illustrative of amœbic and bacillary dysenteries seen in Fiji there was an interesting specimen of multiple amœbic abscesses of the liver, each of the size of a halfpenny piece and occurring in association with ulceration of the large intestine.

There was a good collection from the Royal Naval College and also from Fleet-Surgeon P. W. Bassett-Smith, including many embryos and ova of schistosomum hæmatobia, bilharzia, and S. japonicum, one of these showing the male and female worms *in situ* in the tissues, &c. The eosinophilia in these cases was well demonstrated by a blood film which contained 50 per cent. of these cells.

The parasites of kala-azar (the Leishman bodies) were shown in various specimens obtained by punctures of the liver and spleen from cases of the disease in the Mediterranean and in China, and also from smears from Oriental sores. The parasites were seen to be free and intracellular, some being in the flagellate developmental stage; some of the flagellates came from the stomach of a flea, others had been cultivated in the NNN media.

Amongst other parasitic diseases were noted the small intestine of a dog swarming with tænia echinococcus on which the dog had been fed.

Section of Laryngology, Rhinology, and Otology.

Here our attention was attracted by a very large collection of histological specimens exhibited by Dr. J. S. Fraser, showing the various pathological-anatomical changes in inflammatory diseases of the ear. These specimens had been most beautifully prepared, and as it is impossible to do them justice without reproducing the illustrations we can merely say that we would like to see the entire series so reproduced. This same exhibitor was also responsible for a reconstructed model of the middle and inner ear, with explanatory photograph. Other exhibits in this section included a collection of malignant diseases and a large collection of foreign bodies which had been removed from the food and air passages, including carpet tacks, pins, toy bells, coins, and toy trumpets.

Ductless Glands.

Here we found microscopical and naked-eye specimens illustrating the recent work on the subject of these glands. Mr. Rupert Farrant gave a demonstration of some of his clinico-pathological work in connexion with the thyroid gland. He exhibited a series of slides illustrating the effect on the thyroid by feeding and injecting bacilli coli, &c., into guinea-pigs. He showed that the bacillus coli caused a cell hyperplasia with a tinctorial change in the colloid, and this cell hyperplasia varied with the different mutants of bacilli coli. Another series showed the varying degree of hyperplasia and colloid absorption in cases of infantile diarrhœa, dying after varying periods of infection. The hyperplasia in a guinea-pig, following inoculation of glanders bacilli and the various changes in human actinomycosis, cirrhosis of the liver, and other diseases, were all demonstrated, and a series of lantern slides exhibited the changes in diphtheria, whilst two thyroids from horses treated with diphtheria toxin showed that the hyperplasia is inversely proportional to the antitoxic value of the serum. Another series of photographs demonstrated the improvement that Mr. Farrant had obtained by removal of the causal toxin in cases of hyperthyroidism, endemic and exophthalmic goitre.

The pituitary gland was well represented; its developmental stages were shown by Dr. H. A. Haig in sections from embryos of cats, guinea-pigs, and rabbits at various stages; some tumours were mounted, but many more were exemplified by X ray photographs. Other photographs showed other manifestations of the disorder of the pituitary gland, such as acromegaly, dystrophia, adiposo genitalis.

Circulatory System.

Here the recent work of the cardiologists was exemplified by charts from various cases of heart-block, &c., and by microscopical specimens showing the changes in the auriculo-ventricular node and bundle and the blood-vessels supplying it. One slide showed thrombosis of the artery of the *a.-v.* bundle with complete destruction of the bundle from a case of auricular fibrillation with complete heart-block; another showed infiltration of the *a.-v.* bundle from a case exhibiting short paroxysms of tachycardia originating in the *a.-v.* bundle and a long *a.-c.* interval. Another collection dealing with another aspect of cardiac disease was that of Dr. Carey F. Coombs, who demonstrated histologically the inflammatory changes of rheumatic carditis by specimens from cases of chorea, fatal acute rheumatic pericarditis, &c.

Section of Recent Research.

In this section Dr. Margaret C. W. Young exhibited a series of cultures, photographs, and diagrams bearing on her work on the variation in bacteria. These showed yeast-like growths, coccal growths, and the sporoblastic stages, from which she claimed to be able to breed cocci, bacilli, &c.; she demonstrated also the development of the tubercle bacillus into the subtilis type and the development of the protist and sporoblast stages in considerable degrees of alkalinity of medium, also the streptococcal and anthracoid form of the tubercle bacillus and various other changes. Here we need only say that such startling changes must be received with extreme scepticism and be put to the test of experimental proof.

The experimental work of Mr. J. M. Graham on arterial division and suture aroused much attention. Here we were shown specimens and photographs of the larger vessels and aorta of dogs and cats which had been divided in various directions and sutured with complete success. In many there was complete absence of stenosis, and this was demonstrated also by casts taken from the vessels themselves.

The experimental work on purpura by Dr. J. C. G. Ledingham and Dr. S. P. Bedson was shown in two guinea-pigs, the seat of extensive purpura the result of an inoculation with an antiserum prepared by immunising rabbits with guinea-pig blood-plates.

Section of Dermatology.

Here there were the usual, but none the less useful, collection of photographs, dermatochromes, and life-like casts of the various skin diseases, including some direct colour photographs by Dr. Haldin Davis.

Section of Radiology and Electro-therapeutics.

Here there was a large collection illustrating the work of different schools, but we were specially interested in the X ray photographs of gall-stones, which in many cases served to bring about a diagnosis of the condition. In one case an unsuspected gall-stone had been diagnosed when the symptoms were directed to pyloric obstruction accompanied by a movable right kidney. Another specimen showed the shadow of the external ring of calcium deposit whilst the internal cholesterin nucleus was not visible. Another specimen of interest was a skiagram from a case of gastro-enterostomy, six months after the operation, showing that the bismuth had passed from the anastomosis immediately after the meal and had entered the small intestine in two hours and the colon in 24 hours. The effects of injecting bismuth into the rectum were also shown, the bismuth having reached the splenic flexure in five minutes and the transverse colon in ten minutes.

Dr. W. F. Somerville exhibited a number of lantern slides reduced from skiagrams. These included cases of deformity from rheumatoid arthritis of the small and large joints, and cases of advanced aneurysm, one showing a triple aneurysm of the innominate artery and another a pressure erosion of the right clavicle. Amongst a varied collection of tuberculous disease was a case of pathological fracture of the right femur resulting from tuberculous disease of the bone; others showed calcareous deposits in the brachial, radial, and ulnar arteries of a man aged 64.

Section of Surgery.

Here for the most part we only found photographs and water-colour drawings, but there were a few naked-eye specimens showing diverticulitis in the pelvic colon removed from a man aged 74, who for more than a year had suffered from obstinate constipation, &c.; the spleen removed by operation from a case of chronic acholuric jaundice, and another from a case of splenic anæmia.

Section of Anatomy.

There was a small collection here showing a few abnormalities, amongst which we noticed an extra lobe of the lung, an accessory thyroid gland, and an abnormal band in the right auricle.

Historical Section.

The historical section will become one of the most pleasing features of annual exhibitions. In this section Dr. W. J. Dilling had succeeded in illustrating some of the landmarks in the history of medicine. The Egyptian section contained figures of the Egyptian deities connected with medicine as well as several ancient Egyptian surgical instruments and a facsimile of the Papyrus Ebers, one of the oldest medical MSS., with translations into English of the texts shown. The Greek and Roman section was enriched by the beautiful and comprehensive collection of Greek and Roman surgical instruments gathered by the late Dr. J. S. Milne. Specimens were shown also of bronze and alabaster ointment holders and a blown-glass breast exhauster. In the Early and Middle English Medicine section there were shown several very crude old earthenware ointment pots, three of them obtained from London.

Amongst the old medical instruments many examples in pewter were shown, including castor-oil spoons and urinals. The history of the feeding-bottle was illustrated by several specimens, and of special interest was a crude hypodermic syringe made of a piece of brass tubing closed at the end by a Straits Settlement coin, and having for a piston a piece of brass wire wrapped with paper. This article was used by Chinese robbers who injected opium into the house servants previous to burgling the house. Interesting also were two girdles, one from East Africa, the other from North America, which were used by the natives to facilitate birth. Grouped in the surgical section were many obsolete instruments, &c., old cupping glasses, lancets, the moxa, tourniquets, lithotomy instruments, &c. Two original specula made from the shafts of long bones demanded special examination. Several antique spectacles and dental instruments were on exhibition.

The unique feature of the exhibition was the gallery of engraved portraits of eminent medical men of former ages. This exhibit was granted on loan through the kindness of Mr. J. F. Kellas Johnstone, of Aberdeen, and the short biographies attached to the portraits were prepared by Dr. Dilling. There were portraits of some 270 individual medical men, while many of the more famous physicians were represented by several different engravings.

THE REPORT OF THE SELECT COMMITTEE OF THE HOUSE OF COMMONS ON PATENT MEDICINES.[1]

ON Wednesday, June 10th, 1914, a Select Committee of the House of Commons was appointed to consider and inquire into the question of the sale of patent and proprietary medicines and medical preparations and appliances, and advertisements relating thereto, and to report what amendments, if any, in the law are necessary or desirable. The Committee nominated consisted of the following: Mr. Charles Bathurst, Mr. Cawley, Dr. Chapple, Sir Henry Dalziel, Mr. Hayden, Mr. Ingleby, Mr. Glyn-Jones, Mr. Haydn Jones, Mr. Lawson, Mr. Lynch, Sir Philip Magnus, Mr. Newton, Sir Henry Norman, Mr. O'Grady, and Mr. Hill-Wood, with Sir Henry Norman as chairman, and they were empowered to send for persons, papers, and records, and to order analyses.

The Committee have now agreed to the following report:—

REPORT.

1. Your Committee, during the three sessions of Parliament over which their labours have extended, have held 33 public sittings, and have examined 42 witnesses, of whom more than 14,000 questions have been asked.

2. Of these witnesses nine represented Government Departments, either of this country or Australia, eleven were medical men, five were analysts, four were wholesale or manufacturing druggists, and nine were manufacturers or proprietors of proprietary medicinal preparations. Fourteen analyses have been made for us.

3. In the evidence given before your Committee, the following public authorities or associations have been represented: The Customs and Excise, the Privy Council Office, the Home Office, the Local Government Board, the Director of Public Prosecutions, the Government Laboratory, the Commonwealth of Australia, the General Medical Council, the Royal Society of Medicine, the Royal College of Physicians, Edinburgh, the British Medical Association, the Pharmaceutical Society, the White Cross League, the Proprietary Articles Section of the London Chamber of Commerce, the Association of Wholesale Druggists, and the Association of Medical Herbalists.

Your Committee have also received resolutions from representative bodies, and a large number of communications from private individuals.

4. Your Committee have received from the Foreign Office, the Colonial Office, and from other sources, information as to the existing state of the Law and its administration, in relation to the subject matter of their inquiry, in the principal foreign countries, and in the Dominions. The greater part of this information will be found in the Appendices, but we think that it may be useful, before considering the sale and advertisement of secret remedies in this country, to present the following summary of the information supplied to us of existing laws in foreign countries and British Dominions.

THE LAW IN FOREIGN COUNTRIES.

5. (1) *Germany.*—In Germany a medicine itself cannot be patented, but only the process used in its production; "pharmaceutical specialities," however, can be protected by registered trade marks. The retail trade in a number of "pharmaceutical specialities" is governed in the several Federal States by regulations based upon decisions of the Bundesrat of 1903 and 1907.

Under the regulations a number of preparations are grouped by name in two Schedules A and B, and these may only be sold in pharmacies. Those in Schedule A require a medical prescription as a condition of their sale if they contain drugs of powerful effect, or if the pharmacist is ignorant of their composition. For those in Schedule B, a prescription is in every case necessary. None of these preparations may be publicly advertised or recommended, nor may recommendations or testimonials be included in the package or covering with which they are sold.

These regulations are supplementary to the general regulations governing the conditions under which drugs of powerful effect may be sold, whether proprietary preparations or not.

(2) *Austria.*—In Austria the effect of the law appears to be that no proprietary medicinal preparation may be retailed, the composition of which is unknown, and which has not been officially authorised for sale.

(3) *Hungary.*—In Hungary no secret remedy or pharmaceutical speciality may be sold without the sanction of the Government Department concerned; known and approved remedies may not be sold under changed names; prices must be fixed according to the wholesale prices of drugs; and the recommendation issued with the remedy must also be officially approved.

(4) *France.*—In France the sale of secret remedies, whether of French or foreign origin, is prohibited by law, though it would appear to be legal to sell known and approved remedies under other names, provided the remedy is not advertised in such a way as to give the impression that it is a new discovery. A decree of 1810 provides machinery by

[1] London: Printed under the authority of His Majesty's Stationery Office by Wyman and Sons, Limited. To be obtained from Wyman and Sons, Limited, 29, Breams-buildings, Fetter-lane, E.C.; H.M. Stationery Office (Scottish Branch), 23, Forth-street, Edinburgh; or E. Ponsonby, Limited, 116, Grafton-street, Dublin. 1914. Price 3*d*.

which inventors of new remedies or compounds may obtain official recognition of and remuneration for their discoveries.

(5) *Italy.*—In Italy all patent medicines must be submitted, with their prescription, to the Ministry of the Interior, and the prescription must accompany all packets, &c., offered for sale. False or grossly exaggerated statements, whether of contents or effects, are punishable by fine. Your Committee, however, are informed that the law is not rigidly enforced, and that an approximate statement of the contents of a preparation is considered sufficient.

(6) *The United States.*—In the United States the sale of medical preparations is regulated by the Food and Drugs Acts. There appear to be no separate State laws dealing with the subject. Proceedings were taken under the Act of 1906 in several cases against vendors of fraudulent nostrums for which extravagant claims were made, their drugs were declared "misbranded," and the vendors were fined. A decision of the Supreme Court, however, in 1911 confined the term "misbranding" to false statements regarding the contents of a medicine, and in consequence an amending Act was passed in 1912, Section III. of which provided that that part of Section 8 of the Food and Drugs Act of 1906, defining what shall be misbranding in the case of drugs, should be amended by adding the following paragraphs: "That the term 'misbranded' as used herein shall apply to all drugs or articles of food or articles which enter into the composition of food the package or label of which shall bear any statement, design or device regarding such article, or the ingredients or substances contained therein which shall be false or misleading in any particular, and to any food or drug product which is falsely branded as to the State territory or country in which it is manufactured or produced. That for the purposes of this Act an article shall also be deemed to be misbranded—in the case of drugs:—*First:* If it be an imitation of or offered for sale under the name of another article. *Second:* If the contents of the package as originally put up shall have been removed in whole or in part, and other contents shall have been placed in such package, or if the package fail to bear a statement on the label of the quantity or proportion of any alcohol, morphine, opium, cocaine, heroin, alpha or beta eucaine, chloroform, cannabis indica, chloral hydrate or acetanilide, or any derivative or preparation of any such substances contained therein. *Third:* If its package or label shall bear or contain any statement, design or device regarding the curative or therapeutic effect of such article or of any of the ingredients or substances contained therein, which is false and fraudulent."

THE LAW IN BRITISH DOMINIONS.

6. (1) *Australia.*—Your Committee have heard much valuable evidence regarding the law and its administration in Australia from Dr. W. Perrin Norris, who until recently was Director of Quarantine under the Commonwealth Government, and is now Chief Medical Officer for the Commonwealth in London, and from Mr. H. E. Neal, of the High Commissioner's Office.

Under this administration strict supervision is exercised upon all printed matter, labels, &c., accompanying medicines imported into the Commonwealth; extravagant or otherwise objectionable statements are required to be modified or excised; and if necessary the goods are not allowed to be imported until such modifications have been made. In a few cases medicines or medical appliances have been refused admission absolutely. Your Committee are informed that this is carried out without any considerable difficulty, and they have in the course of their inquiry noticed numerous cases in which there are substantial differences between the labels, &c., accompanying goods sold in this country, and the same goods as sold in Australia. (*See* Par. 52.) It is to be noted, however, that the action of the Commonwealth authorities is confined to dealing with the goods at the port of entry, and the control of the conditions of retail sale, or internal manufacture, is in the hands of the respective State Governments; but it would appear that the State laws tend to approximate to those of the Commonwealth, and in some cases even to go beyond them. Thus in Western Australia, under recent statutory regulations, the formula of every proprietary medicine is required to be stated on the label, or alternatively, deposited with the Department of Public Health. In New South Wales, by the Pure Food Act of 1908, a drug is declared to be falsely described when it "bears a statement design or device regarding such drug or the ingredients or substance contained therein, which is false or misleading in any particular." Under the regulations, moreover, if any one or more of some 42 scheduled drugs or poisons be contained in a preparation, the name of the drug, and the proportion of it that is present, must be stated on the label. In Tasmania, under the Food and Drugs Act, 1910, the health officer may examine and report upon drugs and appliances advertised, and may compare the results with any advertisement; the reports may be published in the Gazette and newspapers; and the Governor may prohibit the advertising or sale of any drug or appliance which is held to be injurious to health or "which by reason of its inactivity or inefficiency is useless for the advertised purpose of cure."

(2) *Canada.*—In Canada legislation is on different lines, every importer, manufacturer or agent being required to procure annually a numbered certificate of registration, and the label being required to bear the number and name under which the medicine is registered; moreover, if any of certain specified drugs are present in a greater proportion than is officially authorised, the names of such drugs must be conspicuously printed on the labels and wrappers.

7. The sale of remedies of which the composition is secret is thus restricted in varying degrees by law in the principal foreign countries and in the British Dominions. This was confirmed to us in evidence by a number of proprietors of secret remedies, who, giving various reasons for their action, informed us that as a matter of fact they export to foreign countries little or none of their products. Of the law in the United States and Australia we shall have occasion to speak later. We pass now to the law and its administration in the United Kingdom.

THE LAW IN THE UNITED KINGDOM.

8. We have found much difficulty in arriving at a clear appreciation of the law and its administration. In support of this statement it may suffice to refer to the evidence of the witness from the Home Office, who admitted that there was no department of the Government which from its own experience, or from the knowledge officially obtained by it, could give us information or advice regarding the general scope of our inquiry. The law is contained in fragmentary form in parts of a number of overlapping statutes, dating from 1804; when administered at all it is administered by a number of Departments of State of whose differing functions there is neither definition nor consistent practice; and owing to the rare occasions on which cases under the Statute Law have been brought before the Courts, there is no body of precedents to afford private or official guidance.

9. Fiscal duties in respect of medicines were originally imposed in 1783. The present law requiring a licence to sell, or imposing a duty upon medicine sold, dates from three Acts of 1802, 1804, and 1812. In 1864 the duty on the licence was made a duty of Excise, and in 1875 a uniform duty of 5s. was imposed for the licence. There are two principal exemptions from duty, namely:—

(1) Pure drugs, that is, drugs vended entire, without any mixture or composition with any other drug, by any qualified person, or person holding a licence; and (2) well-known and admitted remedies. (As a matter of fact, the Courts have only decided this exemption in one case, namely, ammoniated tincture of quinine.) There is no duty upon these remedies in Ireland, if manufactured there.

The scale of duties, unchanged since 1804, is as follows:—

Medicines of the price or value of 1s. or under, 1½d.

Medicines of the price or value exceeding 1s., but not exceeding 2s. 6d., 3d.

Medicines of the price or value exceeding 2s. 6d., but not exceeding 4s. 6d., 6d.

Medicines of the price or value exceeding 4s., but not exceeding 10s., 1s.

Medicines of the price or value of 10s.–20s., 2s.

Medicines of the price or value of 20s.–30s., 3s.

There were originally two higher classes of duty, under 50s. and above 50s., but these have ceased to be demanded and the labels are no longer printed.

10. The sale and advertisement of patent and proprietary medicines, apart from fiscal provisions and from the Common Law, may fall under several Acts of Parliament, the administration of four Departments of State, and the activities of two statutory bodies.

(a) Acts of Parliament.

(1) *The Stamp Acts.*—The duties upon medicines are Medicine Stamp Duties under the Stamp Acts.

(2) *The Pharmacy Acts*, 1868 and 1869, and *The Poisons and Pharmacy Act*, 1908.—A poison is any drug named in the schedules to the latter Act. Nothing else, in the view of the law, is a poison. Any medicine containing a poison must bear the word "Poison," or if containing a poisonous substance mentioned in Section 5 of the former Act, the word "Poisonous." Medicinal preparations may also come within the terms of the Arsenic Act, 1851.

(3) *The Merchandise Marks Act*, 1887.—Under this Act it is (shortly) an offence to apply a false trade description to goods, or to sell goods so falsely described, unless the person prosecuted proves that he acted innocently in the matter.

(4) *The Sale of Food and Drugs Acts*, 1875 and 1899.—Under Section 27 of the former Act it is an offence wilfully to give with an article sold a label falsely describing such article. But under Section 6 of the same Act an offence shall not be deemed to be committed "where the drug or food is a proprietary medicine or is the subject of a patent in force." The appointment and duties of public analysts, and the procuring and analysing of samples of drugs by local authorities are prescribed by these Acts.

(5) *The Indecent Advertisements Act.*—Under this Act it is an offence to affix or inscribe on any house or building an advertisement relating to disease connected with sexual intercourse.

(6) *The Larceny Act.*—Under Section 88 it is an offence to obtain money by false pretences from any person with an intent to defraud.

(b) Departments of State.

(1) *The Privy Council Office.*—The Privy Council exercises a certain amount of supervisory and regulative influence through their charter or otherwise upon the qualifications and conduct of doctors, dentists, chemists, veterinary surgeons, and midwives. An Order in Council, following upon a recommendation of the Pharmaceutical Society, is necessary to add a drug to the schedules of poisons.

(2) *The Home Office.*—The Home Secretary answers questions in the House of Commons, on behalf of the Lord President of the Council, on the general subject of proprietary medicines, and he has power to direct the Director of Public Prosecutions to take proceedings. Complaints of fraud would properly be made to the Home Office, as the general supervising authority over the police.

(3) *The Local Government Board.*—This department controls the administration of the Sale of Food and Drugs Acts by the 234 local authorities of England and Wales.

(4) *The Patent Office.*—The Comptroller-General informed us that 312 patents granted to 1912 for medicines and medicinal preparations are in force. There are very few patents of the remedies to which our inquiry was specially directed, as a patent cannot be secured without (*a*) proof of usefulness and novelty, and (*b*) disclosure of formula.

(c) Statutory Bodies.

(1) *The General Medical Council.*—This body is charged by the Medical Act, 1858, with publishing from time to time the "British Pharmacopœia," an authoritative standard and guide to the uniformity and purity of drugs employed by medical men. The last edition was published fifteen years ago. A new edition is at last in the press.

(2) *The Pharmaceutical Society.*—This body, created by Royal Charter in 1843, is charged by the Pharmacy Acts with a measure of control over the sale of proprietary articles containing scheduled poisons. It has no powers in relation to other proprietary articles. It moves the Privy Council to add to the schedule of poisons.

11. The foregoing summary, if left without comment, might be thought to indicate an adequate body of law and administrative authority to deal with the subject of our inquiry. This is far from being the case. So far as the prevention of fraud is concerned, the before-mentioned statutes or powers are of little value. To show this in detail in each instance would be to overload our Report with details. We confine ourselves, therefore, to a brief indication of the facts or the authority upon which we base the above opinion.

12. There is no Department of State officially concerned with the sale and advertisement of these articles. The witness from the Home Office said to us: "This is one of many subjects which no Department of State claims as its own." He further said: "The Home Secretary, as regards patent and proprietary medicines as such, has no powers or

duties." And he added: "Proceedings for fraud against proprietors or vendors of proprietary medicines on the ground that they cannot cure the diseases they mention are practically unknown." As regards the Privy Council in this connexion, it is merely a clerical vehicle for passing on any question to some other department, possessing itself neither knowledge nor adequate staff to deal with it. And even its function of securing Orders in Council is exercised with such laxity that whereas the Pharmaceutical Society passed resolutions in 1882, 1886, 1893 (moved by the Local Government Board), and 1899, requesting that various poisons, including carbolic acid, which was responsible for 200 fatalities a year, should be added to the schedule of poisons, it was not until 1900 that this recommendation was carried out in part. It thus took the Privy Council 18 years to add carbolic acid to the schedule of poisons. The President of the Pharmaceutical Society not unnaturally expressed to us the opinion that "a change in the law, or, at any rate, a great change of procedure, is urgently necessary."

13. The Merchandise Marks Acts give no specific authority to local authorities to prosecute for a false trade description, and no private individual has yet seen fit to do so in respect of a proprietary medicine. Moreover, an action would only lie in the case of a medicine not being what it was alleged to be; for instance, a drug not quinine described as being quinine. Further, it does not apply to fraudulent advertisements, except in so far as such advertisements accompany the goods.

14. In the Sale of Food and Drugs Act, Section 6, subsection (2) specifically exempts proprietary and patent medicines from its operations. Even if this exemption were abolished this section of the Act would still be practically useless, as a purchaser asking for X's pills and getting X's pills would be getting an article "of the nature, substance, and quality of the article demanded."

15. The Indecent Advertisements Act does not include advertisements in newspapers.

Legal and Official Anomalies and Curiosities.

16. The anomalies and curiosities of the law and official practice are numerous and remarkable. For example, under the Stamp Act foreign medicines are liable to duty merely because they are foreign, but since 1885, when Mr. Childers was Chancellor of the Exchequer, the Commissioners of Inland Revenue have disregarded the difference between British and foreign preparations as a concession, according to one witness, to those who contended that the duty violated the doctrines of free trade. Again, any number of different names may be secured as trade-marks for the same drug. Thus "soamin" is "atoxyl," and the drug acetyl-salicylic acid is sold as "Aspirin," "Saletin," "Salacetin," "Xaxa," &c., and a chemist receiving a prescription with "Xaxa," for instance, on it, cannot substitute acetyl-salicylic acid, though he may know the two substances to be identical, without rendering himself liable to an action for damage by the proprietor of "Xaxa." Acetanilide is sold as "Antikamnia" (the drug sold in America under this name was formerly acetanilide, but in consequence of a change in the law it is now phenacetin in America, but is still acetanilide in this country), "Ammonol," "Antitoxine," and "Phenalgin"; "phenolphthalein," simple or compound, is sold as "Aperlone," "Laxans," "Laxatin," "Laxatol," "Laxatoline," "Laxiconfect," "Laxoin," "Laxophen," "Paraphthalein," "Phenolax," "Prolielin," "Purgen," "Purgo," "Purgolade," "Purgella," and "Purgvlum"; formamine or urotropine (hexamethylene-tetramine, or commercial varieties of it) is sold under the proprietary names of "Aminoform," "Cystamin," "Metramine," "Urisol," "Uritone," "Xametrin," "Vesalvine," &c. Again, the retailer of "Wincarnis" must hold an off wine licence (costing at least £2 10s.), but the Commissioners of Inland Revenue decided that the addition of one gr. of quinine hydrochloride to the fluid oz. makes it a medicated wine, and the retailer need only hold a patent medicine licence (costing 5s.). Thus the proprietors of a medicated wine are naturally induced to add precisely that amount of quinine which the Commissioners decide will enable it to be sold by retailers holding the less expensive licence. Again, a manufacturer of dutiable preparations can export them to himself in a foreign country without paying British duty; if he exports them to another person he must pay duty. But he can transfer them to himself in Ireland and export them from there to any person without paying duty upon them. Again, in all cases where the name of an ailment is mentioned in connexion with a medicine, the Commissioners have since 1902 required duty to be paid; where no ailment, but only the organ of the body which is the seat of the ailment is mentioned, the medicine is not dutiable. Thus "cough mixture" is dutiable, "chest mixture" is not; "liver tonic" is dutiable, "liver mixture" is not; "corn paint" is dutiable, "toe paint" is not; "headache powder" is dutiable, "head powder" is not. Millions of powders for headache now escape duty under this decision, the name having been changed from the former to the latter. An alleged cure for asthma only fails to escape duty because no organ of the body can be named as specially the seat of that ailment. Asthma cigarettes, however, are not regarded as a preparation "to be used or applied externally or internally, as a medicine or medicament." Therefore, they pay no duty. But smelling salts are dutiable. Again, if the original maker of a well-known medicine in which no proprietary rights are claimed affixes a label recommending its efficacy, he must pay stamp duty. But a retail chemist may purchase it from him and affix such a label without paying duty. Again, there is no duty upon waters containing carbonic acid gas, or solid preparations for impregnating water with this gas. The Court ruled, therefore, that powders like "Eno's Fruit Salt," "Kutnow's Powder," "Pyretic saline," &c., are not dutiable, though proprietary medicines recommended for ailments, on the ground that when mixed with water they effervesce by the generation of carbonic acid. Again, an advertisement, not in itself indecent, relating to complaints arising from sexual intercourse, becomes indecent in law if affixed or inscribed anywhere, but not if published in a newspaper, put in a letter box, or thrown down an area; and such advertisements are frequently exhibited in shop windows.

The above examples illustrate the remark made to us by the solicitor to the Chemists' Defence Association that the existing state of the law constitutes "a financial and legal chaos," and the view expressed by the Solicitor to the Customs and Excise, who said, "We have long felt that the whole of this law is very much out of date." From the traders' point of view it is very difficult to know what articles are dutiable and what are not, and the Commissioners themselves confess that they do not enforce the Act strictly. Finally, to compare British with foreign law in one instance, we may refer to the case of the American Macaura. He is stated by one witness to have gained £60,000 by his recent campaign in England of advertising, exhibiting, and selling an alleged vibratory cure for many ailments, whereas for the same procedure in Paris he has just been sentenced to three years' imprisonment and a fine of £120.

Prosecutions for Fraud.

17. Successful prosecutions for fraud in connexion with the sale of secret remedies have been so few as to be negligible. In the first place, as we were informed by the Assistant-Director of Public Prosecutions, at present there is no person whose duty it is to see whether patent medicine manufacturers are making fraudulent claims. And when a prosecution is undertaken, it usually breaks down for one of two reasons: (1) It is impossible to prove guilty knowledge—that is, "wilful" misstatement, often because the medicine is usually sold by persons ignorant of their composition. (2) The defendant is able to produce witnesses who state that the medicine has been beneficial to them. A drug or appliance, for example, is advertised to cure deafness. It may be a drug or treatment which is commonly used by the medical profession to benefit specific or simple cases. The vendor can thus produce a few cases which have derived benefit, whereas in thousands of other cases it is a sheer fraud. (3) In grave cases, like drugs sold to procure abortion, the prosecution could hardly produce a witness to say, "I bought this drug believing it would enable me to commit a crime; I found it would not, and I am defrauded." We have privately brought to the notice of the Director of Public Prosecutions several cases obviously of the most fraudulent or offensive description, and have requested him to prosecute. In each case, with every desire to do so, he has after careful consideration explained to us the legal grounds on which, in his opinion, it would be impossible to secure a verdict.

18. One example of an unsuccessful prosecution of a retail vendor may usefully be given. In 1907 the Liverpool Corporation made a praiseworthy attempt to punish fraud in the case of a preparation, the materials of which, according to the medical officer of health, cost about a penny and which was sold for 2s. 9d. The retail vendors were prosecuted on the ground that the statement on the label that the preparation "contains the active ingredients and digestive qualities of the gastric juice in a highly concentrated and permanent form," was false and fraudulent. An analyst's certificate was produced, showing the contents to be water, with traces of phosphoric acid, hydrochloric acid, nitric acid, and calcium phosphate, flavoured with chloroform and a vegetable bitter, and coloured with cochineal. The only part of this resembling the gastric juice was the minute quantity of hydrochloric acid. But it was impossible to prove guilty knowledge on the part of the vendors, the case against them was withdrawn, and they were allowed five guineas costs. It is not surprising that the medical officer of health of the City of Liverpool should add, in supplying us with the above facts, "Further analyses have been made of patent medicines, but no legal proceedings have been taken." It should be pointed out that the prosecution was not taken against the manufacturers of the remedy.

The Inadequacy of Existing Law.

19. In opposition to any change in the law affecting the sale or advertisement of secret remedies, it was contended to us on behalf of the Proprietary Articles Section of the London Chamber of Commerce that false statements or false pretences in respect of such remedies are already adequately dealt with either by Common Law or by certain existing Acts; and that adequate powers of prosecution are already vested in certain officials and Departments of State. After most careful and prolonged consideration, in public and in private, we are convinced that this is not the case.

20. By strict interpretation of existing statutes, of the precedents of Common Law, or of the authority of officials and Departments, considerable powers of prevention and prosecution may exist nominally. But we are satisfied that the difficulties of bringing these powers into successful operation are so numerous and great that for all practical purposes the sale and advertisement of secret remedies (unless they contain scheduled poisons) is unrestricted by law in this country.

21. In the final support of this view we would quote the two most weighty official opinions available to us. Mr. Guy Stephenson, Assistant-Director of Public Prosecutions, assured us that "the difficulty of successfully prosecuting for any false statement with regard to the powers of a medicine, is almost insuperable." He then gave evidence as follows:—

Chairman: That is to say, the law is practically non-existent, speaking generally?

Witness: If you like to put it in that way.

Chairman: Or, in other words, the vendors of patent and proprietary medicines can practically do what they like, so long as they keep outside the bounds of gross and obvious impropriety?

Witness: It would seem so—yes.

And Mr. MacFadden, M.B., of the Local Government Board, gave the following evidence:—

Chairman: In fact, we may take it then, as a general summary of your view, that the existing laws are not operative as regards this class of articles, and that they must almost necessarily be inoperative?

Witness: That is so.

The Situation Resulting from Existing Law.

22. The situation, therefore, as regards the sale and advertisement of patent and proprietary medicines and articles may be summarised in one sentence as follows. For all practical purposes British law is powerless to prevent any person from procuring any drug, or making any mixture, whether potent or without any therapeutical activity whatever (so long as it does not contain a scheduled poison), advertising it in any decent terms as a cure for any disease or ailment, recommending it by bogus testimonials and the invented opinions and facsimile signatures of fictitious physicians, and selling it under any name he chooses, on the payment of a small stamp duty, for any price he can persuade a credulous public to pay.

Statistics of the Trade in Proprietary Remedies.

23. We pass now to an examination of the trade in proprietary remedies as it exists in this country, and in the first place, to its fiscal and financial side. The yield of the duties was, to March 31st, 1914, in respect of 43,156 licences, £10,791, and in respect of duties upon medicines apart from licences, for 1912, £327,856, for 1913, £328,318, for 1914, £360,376, thus showing an increase of £31,958 during the past

12 months, the greatest advance in one year for many years. Of the whole revenue all but a very small sum was paid in England. The number of medicine stamps issued in the year ending March 31st, 1908, was 41,757,575, of which 33 millions were for 1½d., 7½ millions for 3d., and one million for 6d. For the year ending March 31st, 1914, it was 44,427,166, of which 34 millions were for 1½d., nearly 9 millions for 3d., and a little over one million for 6d. The increase is thus rather over 2½ millions in six years. The Customs and Excise informed us that it was impossible to tell from these figures what the total sales amounted to, and therefore whether the consumption is increasing or not. But on the assumption that all the 1½d. stamps were put upon medicines retailed at 1s. 1½d. (which is not entirely the case), the sales of these would reach about £1,930,000, and that all the 3d. stamps were put upon medicines retailed at 2s. 9d., the sales of these would be about £1,275,000, or nearly £3,200,000 for these two classes of preparations alone. The President of the Pharmaceutical Society of Great Britain, speaking with 36 years' continuous experience as a retail chemist, informed us that the sale of proprietary remedies has very largely increased during the past ten years.

24. We would draw attention, however, to the probability that the sales of secret remedies will tend to decrease from the operation of the National Insurance Act. Now that the millions of insured persons can obtain medical advice, prescriptions, and drugs free of cost, they will naturally be less likely to attempt self-medication in order to save doctors' fees.

25. There is no record at the Custom House of the importation of these preparations. It is therefore impossible to discover from our own records the respective proportion of home-made and imported remedies, but without doubt a large quantity comes from the United States. Professor Cushny stated that this has increased of late owing to greater restrictions upon their sale there. As he put it, "We are getting the benefit of the legislation of the United States. We are getting a lot of quack remedies which were formerly confined to the United States." These enter free of all import duty except upon their content of materials in themselves dutiable. One witness quoted an official American statement to the effect that about 15,000 000 packages of proprietary remedies were exported from the United States to this country in 1911, of a total value of about £400,000.

26. While the trade in certain classes of secret remedies is carried on, often as mail-order business only, with trifling capital, in other cases the amount of capital invested in manufacturing is very large. The annual turnover of the proprietor of "Beecham's Pills," selling over a million pills a day, Sundays included, is about £360,000 a year. The proprietors of "Seigel's Syrup," who have sold 100 million bottles in 40 years, pay upwards of £40,000 a year in wages alone.

27. In most cases the principal expenditure in connexion with secret remedies is in advertising. The proprietors of "Wincarnis," for example, spend thus £50,000 a year, employing between 30 and 40 persons in their advertising bureau. "Elmer Shirley," a witness informed us, spent at one time £1000 a week. The proprietors of "Daisy" powder, a comparatively small business, spend £3000 a year. The late A. L. Pointing, a well-known swindler, is believed to have spent £20,000 a year in advertising an "alcohol cure" called "Antidipso"—at his death he left £30,000. The Proprietary Articles Section of the London Chamber of Commerce estimates that £2,000,000 is spent annually in this country in advertisements of proprietary medicines.

THE PRESS AND SECRET REMEDIES.

28. It may be convenient to speak at this point of the relation of the newspaper and periodical press to secret remedies. As so large a sum as £2,000,000 or more is spent annually in advertisements of these remedies in one form or another of advertising, the trade is naturally of great importance to newspaper proprietors. In the case of most newspapers these advertisements constitute one of the most considerable sources of income, while a number of small provincial newspapers could probably hardly exist at all without secret remedy advertisements. All periodicals exercise some censorship over these advertisements. With a few, mostly weekly sporting low-class prints, fear of prosecution alone dictates a certain caution. Other papers draw a line of varying strictness. One newspaper only, the "Spectator," we were informed, wholly excludes these advertisements, but a few daily papers also practically close their columns to them. The respectable press, speaking generally, refuses all advertisements having any suggestion of impropriety. Some papers of the so-called "religious press," we are told, show a wider hospitality to secret remedy advertisements, and many of an objectionable character have been found in its columns. It is also lamentably true that the cheap so-called "home" weeklies, intended for the reading of girls and young women, contain advertisements of a grossly improper nature. Many improper advertisements from weeklies, sporting prints, "religious" and "home" papers, were exhibited to us—including 19 advertisements of drugs obviously intended to be used as abortifacients in one provincial Sunday paper—but none of this character from high-class dailies or weeklies. We are convinced that the proprietors of the better class of newspapers and secret remedies alike would welcome a drastic suppression of suggestive or improper advertisements. The foregoing observations do not refer to the advertisements of swindlers like Macaura, the "eye quacks," the "deaf quacks," the cancer-curers, the consumption-curers, the electric belt makers, the curers of rupture without operation, or "fakirs" generally. As regards these classes, most newspaper proprietors do not regard it as incumbent upon them to test the good faith of secret remedy advertisers any more than of advertisers of other goods, though a few of the leading papers exercise a very severe censorship upon advertisements of this kind also. We must point out further, in this connexion, that the large sums received for the advertisement of secret remedies lead newspapers, either from discretion or under compulsion, to exclude from their columns criticism or discussion of secret remedies. When the British Medical Association, for example, issued their volume entitled "Secret Remedies," containing analyses, costs, &c., of a large number of proprietary medicines, not only was the volume not noticed editorially by most papers, but even an advertisement of it was declined by many journals, some of them of the highest class. A trial in Edinburgh in the course of which the judge described the business of the proprietors of "Bile Beans" as "based on unblushing falsehood for the purpose of defrauding the public," was, we were informed, with few exceptions not reported in the Press, and the remedy still has a considerable sale. The extent to which criticism of secret medicines is excluded from the Press may probably be judged by anyone who will take the trouble to see how much attention is bestowed by the newspapers upon your Committee's Report.

29. With regard to the advertisements in the Medical Press, we consider that adequate censorship has not in all cases been exercised, as, indeed, was admitted by Dr. Cox, the representative of the British Medical Association, and instances to this effect will be found in the evidence we received.

THE ANALYSIS OF SECRET REMEDIES.

30. Mention of the volumes called "Secret Remedies" leads us to speak of the analysis of proprietary and secret remedies. It is vital to many proposals to deal by law with secret remedies on the ground of either their injurious or their inactive nature, that their composition should be determinable by analysis. Eminent analysts appeared before us in support of the cases for and against these remedies, but as might have been anticipated their views differed widely, and they did not fail to draw our attention to each other's unsatisfactory methods and erroneous results. We received, however, valuable independent guidance from the Government Chemist, Dr. Dobbie, and his first-class analyst, Mr. C. Simmonds.

31. It is asserted by expert analysts representing the proprietary medicine trade that no known methods of analysis will enable the composition of many secret remedies to be accurately determined. Consequently, it was claimed, the analyses published in "Secret Remedies" are incorrect in many cases. In one or two instances the makers informed us in confidence of ingredients which the British Medical Association analyst or the Government Chemist had failed to identify. Where there is an undiscovered ingredient the maker claimed special virtues for it—which he would possibly not do, as one witness suggested, if it were named. To this aspect of analysis, obviously of the greatest importance, we gave prolonged and most careful attention, and basing our view upon consideration of much technical evidence, we have reached the following conclusions.

A large proportion of drugs consists of inorganic substances, or compounds of inorganic with organic substances. Practically all of these are recognisable, and so far as concerns the inorganic substances themselves, determinable—that is, not only the substance recognised but also its quantity determined—by competent analysis. A further group consists of manufactured compounds, and these are practically all recognisable by analysis, even in somewhat complex mixtures. There remains a group of vegetable extracts, of which dandelion and gentian are familiar examples. But even simple vegetable extracts are really highly complex bodies, and the exact composition of these is still unknown to chemistry. Unless one of these, therefore, possesses a marked smell or taste, or if, possessing such, its smell or taste is masked by the greater smell or taste of some other similar substance, it cannot in many cases be specifically identified. The difficulty of identification, moreover, increases rapidly in proportion to the number of such extracts in a mixture, and when a large number, say eight or ten, are mixed together, even separate detection is impossible, and accurate determination out of the question. What is relied upon, however, in vegetable extracts for medicinal effect is often an alkaloid or mineral constituent, and these can be accurately discovered and determined. Further, subgroups of this group possess in common an active principle which can be recognised and which serves to identify the substances of the particular subgroup. For example, emodin is said to be the active principle of rhubarb and half a dozen other vegetable extracts.

32. One important practical result of the foregoing is that any maker of a secret remedy, by mixing together, whether with or without scientific or therapeutical knowledge, a number of vegetable extracts, can truthfully state that the composition of his remedy cannot be discovered by analysis. A mixture of tinctures, infusions, decoctions, or extracts of such familiar yet complex bodies as treacle, honey, aloes, cinnamon, liquorice, linseed, coltsfoot, cubebs, pepper, horehound, ginger, gentian, dandelion, rhubarb, saffron, &c., may defy all chemical, microscopic, spectroscopic, olfactory, or physiological analysis. While a mixture, therefore, may have a therapeutical value, it may also be made to defy the analytical exposure of a fraudulent claim of therapeutical value. There are thus distinct limits to analysis, but in practice these limits are narrower than would appear, for in a large majority of cases the essential nature of the principal constituents of any medicine can be detected with almost perfect certainty and determined with reasonable accuracy, given skill, time, and a sufficient quantity of material.

ORGANISATION OF THE TRADE IN PROPRIETARY REMEDIES.

33. The trade in patent and proprietary medicines is represented in Great Britain by the Proprietary Articles Section of the London Chamber of Commerce, which contains over 300 manufacturers or vendors of such articles. Membership of the Section is open to any person in the trade, proposed and seconded by members. No control of any kind is exercised by the Section over the nature of the remedies sold or the claims made for them. This body presented to us the case for proprietary medicines, producing as witnesses two expert analysts and a number of makers and proprietors of secret remedies.

THE DIFFERENT CLASSES OF PROPRIETARY REMEDIES.

34. Patent and proprietary medicines differ very widely in character. At one end of the scale is the valuable scientific preparation; at the other end is the mere vulgar swindle. Any useful consideration of them must therefore be preceded by some classification into distinct categories, as these may call for widely differing treatment in the public interest, corresponding to their differences of character. For the purpose of this Report we adopt the following classification, which is largely supported by the evidence of expert witnesses of high standing.

In the first place we divide these remedies into two chief classes: (A) Non-secret and (B) Secret. That is, those of which the formula is published, and those of which the formula is not published.

CLASS A.—NON-SECRET REMEDIES.

Group 1. *Proprietary preparations.*—This group consists of genuine drugs, originally produced synthetically, or extracted from crude compounds, by skilled chemists and tested by therapeutists, and manufactured (though under many names) in pharmacological laboratories. Familiar examples are aspirin, adrenaline, and urotropine. The processes of manufacture are patented, or the names are registered trade-marks.

Group 2. *Remedies owing their value to skilful combination.*—Examples of this group are various emulsions of cod-liver oil or

petroleum, and mixtures of bismuth with pepsine. They contain no new drugs, but are only new combinations, depending for their palatable or assimilable qualities upon the skill with which they are compounded.

Group 3. *Non-secret drugs with secret excipients.*—These are known drugs with formula disclosed, mixed for purposes of convenient or elegant manufacture with minute quantities of medically inert substances, the nature of which is a trade secret. The most familiar example of this group is the large quantity of medicine sold in "tabloids," this trade name being the property of one firm.

It will be evident that unless some of the above drugs are such as should not be sold at all; unless it should be thought desirable to forbid unfounded claims of efficacy in curing disease; or unless any restriction of the multiplication of trade names be recommended, there is nothing in the above Class calling for interference in the public interest. The second Class occupies a different position.

CLASS B.—SECRET REMEDIES.

In consequence of the great variety of remedies of this class, it is difficult to give an adequate classification of them without entering into excessive detail. For practical purposes, however, they may be divided into three general groups.

Group 1. *Simple household remedies.*—This group consists of a number of household remedies, often originally manufactured from a doctor's family prescription, and undoubtedly beneficial for uncomplicated ailments. They have in most cases been sold for many years, and as their retail price is out of all proportion to their cost, large fortunes have often been amassed by their proprietors. Except for the fact that often the advertisements of them recommend their use for cases they cannot benefit, thus causing the purchaser to run the risk of serious injury by delay in securing proper medical treatment, there is little or nothing to criticise in their sale. We cannot, of course, give examples of these, as our remarks would at once be used for advertising purposes.

Group 2. *Dangerous remedies, and drugs for improper purposes.*—This is a small class of drugs which should not be sold at all, of which acetanilide is possibly an example; which should not be sold except on a doctor's prescription; or which should not be sold for the purpose for which they are offered—as, for example, an unsuitable drug as a general medicine for young children.

Group 3. *Fraudulent remedies.*—This is a large class, having an extensive sale, often at high prices, consisting of abortifacients, of alleged cures for cancer, consumption, diabetes, paralysis, locomotor ataxy, Bright's disease, lupus, fits, epilepsy, rupture (without operation or appliance), deafness, disease of the eye, syphilis, &c., together with electric belts, apparatus for supplying oxygen to the system (other than by inspiration), "ionised" waters and the like. The discovery of radium will probably add a number of remedies to this group. There should be little difficulty in identifying remedies of this class, and their treatment in the public interest need involve no doubt or hesitation. They are, and are known by their makers to be, cruel frauds; and the sale and advertisement of them should be prohibited under drastic penalties.

Group 4. *Remedies making grossly exaggerated claims.*—This is a final large class. Genuine simple remedies making exaggerated claims are included in Group 1, as the exaggeration in their case is usually of the nature of the "trade puff." Those we have in view in this group are remedies depending for their sale largely or wholly upon the extravagant promises they hold out to the purchaser. This, under the name of "misbranding," is now prohibited by law in the United States, and many cases came before us in which the advertisements of proprietary remedies in this country were refused admission into Australia. This group presents obviously great difficulties in drawing the line between claims which are merely "puffs" and claims which are fraudulent, but we regard it as beyond question that the public is defrauded on a large scale by promises which cannot possibly be fulfilled. As an example of the profits made by the sale of this class of remedies, George Taylor Fulford, the proprietor of "Dr. Williams' Pink Pills for Pale People," left a fortune of £1,111,000.

MEDICATED WINES.

35. In addition to the various classes of patent and proprietary remedies, our attention has also been forcibly called to the advertisement and sale of medicated wines, and weighty opinions have been quoted to us regarding their mischievous effects. The trade in these wines is a very extensive one. Messrs. Coleman & Co., the proprietors of "Wincarnis," have a capital of £250,000, employ between four and five hundred persons, and, as before stated, spend £50,000 a year in advertising. Mr. Henry James Hall, trading as Stephen Smith & Co., the proprietors of "Hall's Wine," has a capital of £175,000. The alcoholic content of these wines is very high. For purposes of comparison, the alcoholic strength of familiar wines may be taken to be as follows:—

Claret	9 per cent.	Sherry	18 per cent.
Hock	10 ,,	Port	20 ,,
Champagne ...	10-15 ,,		

The alcoholic strength of well-known brands of medicated wines was stated to us as follows:—

Bovril Wine	20 per cent.	Savar's Wine	23 per cent.
Lemco Wine	17 ,,	Coleman's Coca Wine	16 ,,
*Wincarnis	19·6 ,,	Hall's Wine	17·8 ,,
Bendle's Wine... ...	20 ,,	Vin Mariani	16 ,,
Glendinning's Wine	20·8 ,,	St. Raphael Tonic Wine	16 ,,
Ambrecht's Coca Wine	15 ,,		
Spiers and Pond's Wine	17 ,,		

* The proprietor stated this percentage to be about 17 per cent. of absolute alcohol.

A number of other preparations contain a high percentage of alcohol, without bearing any suggestion whatever that they are alcoholic. For example:—

Carrick's Liquid Peptonoids	20 per cent.	Junora	11·9 per cent.
Panopeptone	20 ,,	Vibrona	19 ,,
Armour's Nutritive Elixir of Peptone	15 ,,	Lydia E. Pinkham's Vegetable Compound	20 ,,
Carnabyn	17 ,,		

Thus, though we cannot take responsibility for the foregoing figures, it would appear that many of these wines and preparations are as alcoholic as the strongest wine, and most of the rest are about twice as intoxicating as ordinary claret. One wineglassful of a 20 per cent. wine or preparation contains three and a half teaspoonfuls of absolute alcohol; one wineglassful of "Wincarnis" three teaspoonfuls. The recommended dose of "Wincarnis" equals one wineglassful of whisky per day.

Some medicated wines claim to be nutritive because meat extract enters into their composition. The quantity of meat extract, however, is trifling, and in any case it is not nutritive. "Wincarnis," for instance, is declared to "give a strength that is lasting, because in each wineglassful there is a standard amount of nutriment," and is described as "the world's greatest tonic, restorative, blood-maker, and nerve food." Its proportion of meat extract is 1·2 per cent., or about one-twentieth of the nitrogenous (flesh-forming) constituents of lean beefsteak. An analysis made by the public analyst of the city of Bradford says: "It is so deficient in albumenoid nitrogen and phosphorus, essential constituents of nerves and flesh, that in these respects it is but very little superior to port wine itself." "Lemco Wine," again, contains only 0·6 per cent. of meat extract, but 12 per cent. of sugar. Alcohol, moreover, cannot contain meat extract in solution, and presumably any medical man desiring to administer meat extract would prefer to do so without mixing it with alcohol.

There can be no doubt that many persons acquire the "drink habit" by taking these wines and preparations, either knowing that they are alcoholic, since they can be purchased and consumed without giving rise to the charge of "drinking," or in ignorance that they are highly intoxicating liquors. The further charge is made that their drug content may lead to the "drug habit." "Hall's Coca Wine" is now called simply "Hall's Wine." It contains one grain of the extractive principle of the coca leaf (which is mainly cocaine) in 26 fluid ounces, a sufficient amount, as stated by the proprietor, to cause sleep if two wineglassfuls are taken. It is recommended for children in these words: "For colds, coughs, and bronchial affections: children, a dessertspoonful three times daily." One "nutritive tonic wine" (Bugeaud's) is advertised as containing "cinchona (quinine) and cocoa." It contains no cocoa. The word is probably a misprint—perhaps accidental—for "coca." In some cases the proprietors of these wines offer to pay for the wine licence of retailers. A well-known firm of chemists, commenting upon this, wrote: "On our expressing surprise that they could do this, we were told that of course they would expect our orders for ordinary unmedicated wines, the demand for which always followed, in their experience, where the medicated kinds were introduced." It is stated that doctors' testimonials are secured by the offer of a free 2*s.* 6*d.* bottle for any poor person to whom the doctor may like to send it, on his returning a signed coupon. Thus Coleman and Company claim to have 6000 signatures of medical men in favour of "Wincarnis." The President of the British Medical Association gives this further explanation: "The profession has been educated up to a better standard about the giving of testimonials, but it was culpably lax some years ago."

(To be continued.)

New Inventions.

CENTRAL-EYED NEEDLES.

I HAVE for some time been using needles with a central eye and pointed at both ends. With the aid of a needle-holder—an ordinary pair of Spencer Wells's forceps—any fingering of the needle or thread is easily avoided. The movements of supination and pronation are made use of so that the same grip that pulls the needle through serves to re-insert it. The thread or gut is knotted together at the ends and the first stitch is fixed, not by tying, but by passing the needle through the loop. Thereafter the suture is continued with a double thread, thus permitting the use of a finer suture than would otherwise be safe. The needles are very handy for stitching the pelvic peritoneum in such operations as hysterectomy, where the

ordinary needle is withdrawn at every stitch to allow the grip to be shifted. The needles are made straight and curved, the straight being the more generally useful. With the straight needles an ordinary over-stitch, a blanket-stitch, a post-mortem stitch, or a continuous Connell stitch can be readily and quickly inserted. The curved needles cannot be used for any form of over-stitch but serve for the insertion of continuous mattress or post-mortem stitches.

The straight needles can be obtained from Messrs. Allen and Hanburys, Limited, of Wigmore-street, London, W., and from Messrs. A. Browne, of Leicester. The former firm will also be in a position shortly to supply the curved needles of this type.

PERCIVAL P. COLE, M.B., Ch.B. Birm., F.R.C.S. Eng.

London, W.

ASYLUM REPORTS.

Kesteven, Lincolnshire, County Asylum (Annual Report for the Year 1913–14).—The number of patients in the asylum at the end of the year was 472. The admissions numbered 111. Fifty-five patients were discharged, of whom 21 were recovered. The deaths amounted to 41, which gives a percentage of 8·83, as compared with 10·74 the previous year. Of these, 8 were due to tuberculosis and 2 to dysentery. Post-mortem examinations were made in 79 per cent. of the cases. Dr. J. A. Ewan, the medical superintendent, considers that hereditary predisposition stands first among the factors in the production of insanity, and that it is more prominent in rural than in urban districts.

Stirling District Asylum (Annual Report for the Year ending May 15th, 1913).—The total number of cases treated during the year was 999, the average number being 767. The number of patients admitted was 244, of whom 150 were suffering from acute forms of insanity. An inherited predisposition was admitted in 26 per cent., alcoholic excess was found to be the cause in 18 per cent., and epilepsy in 9 per cent. In 35 per cent. the mental breakdown had occurred at one of the critical periods of life—namely, adolescence, the climacteric, and old age. 139 patients were discharged, of whom 95 were recovered. The deaths amounted to 81, making a death-rate of 10·5 per cent. on the average daily number resident. Of these, 17 were over 70 years of age. Tuberculosis of the lungs was the cause of death in 8 cases. Dr. Robert B. Campbell, the medical superintendent, comments on the present overcrowded condition of the male side, with the consequent difficulties in administration and nursing. The Stirling District Lunacy Board has decided to provide a new hospital for male patients, and the scheme is now under consideration.

Middlesbrough County Borough Asylum (Annual Report for the Year 1913).—The total number of cases treated was 566, the average number resident being 421. There were 138 admissions. Dr. John W. Geddes, the medical superintendent, has drawn up exhaustive statistical tables to show the predisposing and etiological factors in the cases admitted during the year. The number discharged was 90, of whom 37 had recovered. The deaths amounted to 50, the death-rate being 11·8 per cent. on the average daily number. Post-mortem examinations were made in 80 per cent. of the cases. Tuberculosis accounted for 13 deaths and heart disease for one only.

Joint Counties' Asylum, Carmarthen (Annual Report for the Year ending March 31st, 1914).—The total number of patients under treatment was 839, the average daily number on the register being 719. There were 124 cases admitted, of which 32 were of an incurable type. Cases of excitement predominated over those of depression, as is usual in agricultural districts, in the proportion of 3 to 2. With regard to causation, a history of inherited predisposition was elicited in 35·5 per cent. of the direct admissions, and alcohol was a predisposing cause in 20·6 per cent. The number of discharges was 66, of whom 40 were recovered. There were 49 deaths, making a proportion of 6·81 per cent. on the average daily number, a rate which is far below the average for English asylums. The tuberculosis death-rate was 22·4 per cent., which is a very high figure. Infective diarrhœa was prevalent and accounted for three deaths. Dr. John Richards, the medical superintendent, greatly deplores the overcrowding of the patients in the institution, the number in excess amounting to 124. He correlates with this condition the high tuberculosis death-rate, and states that a decided improvement in this direction can be expected only when the overcrowding is relieved, when efficient laundry arrangements are available, and when vacuum cleaners are provided in the wards. Apart from the consideration of the welfare of the patients, the institution and its staff have been taxed to its uttermost, a fact to which allusion was made in the last annual report, and which still holds good to an even greater extent. Dr. Richards considers it highly desirable that a separate institution should be provided for patients of an unusually dangerous or criminal type, as their example is extremely detrimental to the other patients. In the report of the committee of visitors it is stated that the long-standing dispute as to the revised quotas and other matters to be included in the proposed new agreement between the representatives of the joint counties has been finally settled, and it is to be hoped that this will materially assist in the work of extending and improving the asylum. A large house has been provisionally purchased, and plans for a new laundry have been submitted to the Commissioners in Lunacy.

LITERARY INTELLIGENCE.—Messrs. Charles Griffin and Co., Limited, have in the press "An Elementary Practical Chemistry for Medical and Other Students," by J. E. Myers, M.Sc. Vict., and J. B. Firth, M.Sc. Vict., written to meet the needs of medical students for their practical chemistry in first examinations and for those studying pharmacy.

MEDICAL MISSIONARY WORK.—From the Church Missionary Society we learn that there are many opportunities for medical practitioners who are willing and able to carry on missionary work in connexion with their professional calling. Their responsibility is often great, as mission hospitals are frequently placed in situations where other medical aid is not available, and in China particularly the question of medical missionaries taking part in the training of medical men has received prominence. The desirability of medical missionaries, whether male or female, being fully qualified and possessing an all-round training needs no emphasis. In most parts of the world, and especially in India, a knowledge of eye diseases is required, and for those going to the tropics a special course in tropical diseases is essential. Apart from the regular missionary societies there are two which have been established for assisting intending medical missionaries in professional preparation—namely, the London Medical Missionary Association, 49, Highbury New Park, N., and the Edinburgh Medical Missionary Association, 56, George-street, Edinburgh. There is a scholarship available for intending missionaries in connexion with King's College Hospital, called the Worsley Scholarship, of the value of £100, payable in five yearly instalments, while the Society for Promoting Christian Knowledge also gives assistance in this direction.

OPENING OF THE MEDICAL SCHOOLS.—In accordance with annual custom inaugural addresses or dinners or both are announced in connexion with the opening of the winter medical session, but many of the arrangements are far from complete, and owing to the exigencies of the time there is always the possibility that such arrangements as have been made may be altered or cancelled. Save where otherwise stated the winter session will begin on Oct. 1st. At St. Bartholomew's Hospital the annual students' dinner will be held in the Great Hall at 7 P.M., when Dr. W. S. A. Griffith will preside. Tickets, price 1 guinea, can be obtained from the honorary secretary, Dr. J. Calvert, 113, Harley-street.—At Charing Cross Hospital there will be a distribution of prizes, and the biennial Huxley Lecture will be delivered by Sir Ronald Ross, K.C.B., F.R.S. The annual dinner has been indefinitely postponed.—The inaugural address at St. George's Hospital will not be given, however, by Mr. A. E. Shipley, and the annual dinner has been postponed.—At King's College a students' dinner will be held on Oct. 2nd at the Waldorf Hotel, Aldwych, at 7 P.M., when Sir Arthur Sloggett, Director-General of the Army Medical Service, will preside. The price of the dinner ticket is 7*s.* 6*d.*, and cheques should be sent to Dr. W. Aldren Turner, King's College Hospital, S.E.—The London Hospital old students' annual dinner will be held on Oct. 6th at the Savoy Hotel, Strand, at 7.30 P.M., the chairman being Dr. C. A. Mercier. The secretaries of the dinner are Dr. R. Drummond Maxwell, 41, Wimpole street, and Dr. Charles H. Miller, 22, Queen Anne-street, W.—At St. Mary's Hospital the prizes will be distributed by Sir Philip Magnus, M.P., but the annual dinner will not be held.—The inaugural address at the Middlesex Hospital will be delivered by Dr. C. Hubert Bond, and the prizes will be presented by Prince Alexander of Teck. The annual dinner will be held at the Trocadero, Sir John Bland-Sutton presiding.—At Westminster Hospital the annual students' dinner will be held at the Imperial Restaurant, Regent-street.—Dr. Frances Ivens will deliver the inaugural address at the London School of Medicine for Women.

THE LANCET.

LONDON: SATURDAY, SEPTEMBER 5, 1914.

The National Spirit.

THE noble verses of Mr. RUDYARD KIPLING supply this country in their title with justification for this terrible war, and express the national sentiment that in face of all misfortunes we must maintain the struggle to the end—an end that will mean our victory, however dearly bought, and our freedom, without which all else is valueless. The conflict will be long, and during that time the flame of national courage will burn steadily, as it is burning in Belgium and France, despite the furious efforts to extinguish it put forth by a powerful and ruthless enemy already established in their midst. For us the occupation of Paris by the Germans must be a grievous blow if it happens, but what will it be for the French? Yet in that agony, should it come, the French will say, as the Belgians have said in reply to a similar supreme test, What of it? We know that a nation is not enslaved by the taking of the capital, and that a university is not destroyed by the demolition of the buildings. It is the duty of us all to live in accordance with our knowledge. On every side we see this being done, and medical men, as a profession, can testify that the national spirit now being manifested is devoid of hysteria or unreasonable fear, and undistorted by hot dreams of vengeance. "For All We Have and Are" this nation is fighting, and our coöperation with devoted allies is the more useful in that it is inspired by reasoned courage.

Physique of the Recruit.

THE emergency brought about by the greatest and fiercest war known to history occupies the thoughts of all of us, whatever our occupation or interests, for indeed both our future as a nation and our ideals of civilisation and progress are alike at stake. Our navy and our army stand between us and the deluge, and it is inevitable that the question of the fitness of the personnel, as regards both bodily physique and professional training for the task before it, should be one that is persistently challenging attention. For that stupendous task, as far as the army is concerned, is nothing less than the successful resistance to, and eventual conquest of, a force, probably equal in physical efficiency, at the least in as completely organised and equipped condition, and more than three times as numerous. We have every reason to believe that the troops of our regular army are in the highest state of physical efficiency, and that they are now, as was said of them once before, "fit to go anywhere and do anything." They have proved themselves and are proving themselves worthy of the eulogium, but at a grave cost to their numbers, while they are only the nucleus around which is being gathered the numbers which will be required to right the wrong and ensure our salvation. It is to the recruits that we look anxiously, that we may be enabled to continue the hideous struggle, and the net to secure these is now being spread with a larger mesh. To those who have realised the imminence of our danger this is of no great matter, but some, we believe, have viewed the situation apprehensively. It is true that the individuals that will compose the British army of the immediate future will not all be of the same age or class as those recruited under normal conditions, but their standard, speaking generally, is quite high. It is not to be anticipated that the men now offering themselves will be in any way inferior to the average during recent years. Under ordinary circumstances the quality of the recruit varies inversely with the conditions of labour during the period; with abundant employment in civilian occupations open to the labouring class generally, the quality of the recruit falls off. On the other hand, if employment is scarce the supply of available recruits mounts up, and there is greater opportunity for selection. It may have been the case that in certain years recently a somewhat inferior type of man physically has been enlisted; but it can be safely affirmed that under the influences of improved environment these recruits have, except in an infinitesimal proportion, developed into useful soldiers. They have proved it in the hard work that during peace falls to the soldier's lot in an Empire such as ours, and they are setting the seal upon their character during war.

The military authorities in their first call for 100,000 men stated that no man between the ages of 19 and 30 years would be refused who was physically fit for active service, and ex-soldiers up to the age of 42 were invited to re-engage. The call was responded to in a remarkably short space of time, though a mistaken impression, quite naturally following upon an announcement seeming to imply that not more than 100,000 men were required, brought quick recruiting to a close at that figure. Since then a further call has been made for men between 19 and 35 years, and ex-soldiers up to 45 years, or up to 50 years in the case of selected non-commissioned officers. No relaxation is made in the measurements of height and chest required, but so long as the man is in good bodily health, sound in wind and limb, and physically "fit," defective teeth are not to cause rejection, for they cannot have affected the general health. The extension of age limit raises an issue whose importance must not be forgotten. A standard of physical fitness for a soldier is of course a necessity; no man who is not strong and healthy can be any good as a marcher, still less as a fighting man under present war conditions. But

the standard that has actually been evolved is not fixed and unvarying; it has been relaxed and made more stringent from time to time according as the supply of available recruits was scanty or ample. The age of ordinary recruiting begins at 18. We have no doubt that great numbers of men are fit to be made into excellent soldiers, able to march, fight, and stand the hardships of a campaign, even though somewhat below the standard measurements, provided they are of sound constitution. This view does not imply that a standard is not necessary, but that, together with the adoption of a standard, there should be a certain degree of elasticity in its application at the discretion of the experienced examining officer. As a matter of actual practice, in recent years such has been the case, and the members of the public who fear lest under the stress of adversity a wrongful laxness should prevail need have no such concern. As to the question of age, the lower limit should not, in our opinion, be reduced; no one can be considered a grown man under 19 at the earliest, and the army is not the place for boys, although recruiting in normal times may begin at 18, but a training corps of lads of 18 to 19, or even younger, might be established in connexion with the army, perhaps without legal enlistment, but with a view to their preparation for entrance into the army at 19, if desirous of doing so, and in all respects fit. This has in practice been to some extent carried out by provisional engagements, and we consider there is no objection to the development of the system. Learning in every department of life comes more easily to the young than to the mature, but it is especially better that the soldier should be taken in hand early and thoroughly trained in his duties while at a receptive age. Discipline is not galling to the youth, whose occasional revolts from it are due to skittishness and not to purposive insubordination. If entrance into the army is deferred until the recruit has lost some of his elasticity of mind, and perhaps until he has contracted bad habits, the military life is more irksome. At the same time, if defects develop under training, either physical or moral, there may be no difficulty in remedying them, while, should efforts in this direction fail, the young recruit, taken on a provisional engagement, can select another career before it is too late. Similarly the State should not be bound to keep him for better or for worse.

When we come to consider the need for a superior limit of age beyond which a man may not be admitted to serve, there would appear to be considerations pointing to some relaxation as being desirable in this direction also. Already the limit of 30 years has been extended to 35, and in the case of old soldiers from 42 to 45 years, with a special arrangement for certain men up to 50 years of age. For ordinary service we believe that these limits can be justified. A man of over 35 years of age taking up soldiering for the first time is not likely to make a good hand at it, either at drill, or on the march, or in camp, or in the fighting line. But there are many duties to be performed on military service that do not need the special physical qualifications of a young man. A good deal of clerical work is required in every unit, even with the least regulation-ridden commanding officer. Men cannot march without boots, and these very soon need to be repaired; most soldiers can mend their own clothes after a fashion, but few can mend their own boots; and we all know that an army "marches on its belly," and that as troops cannot march and fight without being properly fed, cooks are a prime necessity. Now neither clerks, nor cobblers, nor cooks need be under a limit of 30 or 35 years of age. Other examples might be mentioned of men who would do useful work in the fighting force, though somewhat beyond the age limit laid down. Moreover, if we do not confine our view to the class from which the average soldier is drawn in ordinary times, but consider the whole body of mature Englishmen, able and willing to spend and be spent in defence of their country, out of response to the national need, we are assured that there are great numbers who would give up their present occupations and undertake military service. They will do this soberly and deliberately, and with the earnest conviction that, the cause being just, they are prepared to face even that end which "will come when it will come." These men do not cease to be fit because they are over 35 years of age. A certain proportion of such would form a stiffening, a backbone, to the general body of younger ones. They would not have the elasticity nor the *élan* of youth, but they would provide, taken altogether, a very considerable body of good fighting material. But there must be difficulty in using their services, and the difficulty is implied in the words "taken together." In the teeth of the enemy the material must all go through the same mill, and corporate enlistment is directly adverse to this process. The letter in our columns from "Active 54" is a wise recognition of this fact,

The question that has for long been in the minds of many of the most thoughtful and least bellicose of our citizens is the necessity for universal military training. In former days we have paid for our army and navy, and considered this payment an insurance against loss by war. Times have changed. Whole nations are now in arms; if we are to hold our own we must also, as a nation, be prepared to defend ourselves. It has been thought that for the leisured class or for the professional class such an expenditure of time during early adult life would be too great an interference with education or the sphere of business. We believe that this apprehension is without foundation—indeed, the intellectual status and commercial efficiency of Germany refute it. To take our own profession as an example. If one year, or even two years, which would be the extreme period required, were spent in military training, the professional qualification being

deferred for this length of time, the young doctor would be later in earning an income, but he would have gained experience in many ways, especially in sanitary science; he would have undergone discipline and incurred responsibility, both valuable assets in the training for his life's work; and lastly, if everyone in our profession, as in other callings, was liable in his turn to the same course of training and interruption of professional or technical education, no individual would suffer in the long run, because everyone would be equally handicapped. We have not come to this yet, but we believe the necessity for such a universal service will later be acknowledged. Lord ROBERTS has insisted on it for years past with patience and persistency. His words have been much criticised, but it seems that they have been true.

Annotations.

"Ne quid nimis."

NUTRITION.

IT is certainly refreshing to come across a book[1] on so universally interesting a subject as nutrition, and one so much discussed and written about, which is inspired by some original thinking. Mr. Sohn has little respect for any sort of food-faddist. But the early chapters of this admirable little book show that his knowledge of the physiology of digestion and the chemistry of tissues and tissue waste is ample for the task he has undertaken. The chemical consideration of the body is necessarily short, but it is clear and well arranged, space being found for a shrewd glance at the latest researches, such as those into the function of enzymes and hormones. It is, however, in the practical questions of food in relation to chemistry that the author is at his best. Two of the most striking chapters are those on infant feeding and on bread. Infant feeding may almost be described as a battlefield of warring authorities, and here a judicious discrimination is shown in dealing with the vexed questions arising round sterilisation, condensed milks, whey formulas, and other controversies, which have produced a multitude of witnesses, some of hard-swearing capacity. The conclusions drawn are not very definite, but no one is quite in a position to draw absolute conclusions as yet. Any indecision is atoned for in the section on proprietary foods for infants, for with one or two exceptions they are condemned by Mr. Sohn, and it is a fact that they are too frequently used improperly. The same general criticism when applied to meat extracts may also be tempered by the recollection that the claims made for them have obscured their real value. In the descriptions of cereals and breakfast foods the writer is quite practical, and he makes excellent remarks on the chemistry of bread-making. "Breakfast foods" are shown not to differ in composition from ordinary cereals, unless some malting process has been applied to them. Such a process is, in the author's opinion, a doubtful advantage except for invalids, for it tends to reduce the digestive work upon starch; and we do not increase our energies by abstaining from work. Many out-of-the-way food products are considered, such as the rarer fruits and the fungi. Naturally there are gaps here; for instance, no mention is made of laver (ulva maritima). Among commoner foods we find no reference made to rhubarb, and its virtues and disadvantages. Such small matters only accentuate the author's fulness and accuracy, sustained throughout a very valuable, well written little work which ought to have an excellent reception at the present moment.

[1] Nutrition: A Guide to Food and Dieting. By Charles E. Sohn, F.I.C., F.C.S. London: Henry Kimpton. 1914. Pp. 256. Price 3s. 6d. net.

THE TREATMENT OF IMPERFECTLY DESCENDED TESTICLES.

IN the *American Journal of the Medical Sciences* for July Mr. E. M. Corner has given his latest experiences in the treatment of undescended testicles—a subject to which he has devoted attention for many years. He considers the imperfect descent to be due in almost all cases to some arrest of development. The tunica vaginalis remains in communication with the peritoneal cavity, a condition predisposing to the development of hernia. It is often impossible to decide whether the imperfect descent is temporary or permanent. As long as there is no hernia or if the malformation is unilateral, Mr. Corner thinks there need be no hurry in determining this point. He terminates his expectant attitude on finding a hernia accompanying the imperfect descent or on recognising that the latter is not mere belatedness. For a hernia he considers there is no other treatment than operation; a truss would press on the testicle or its vessels. Moreover, the non-separation of the tunica vaginalis and peritoneum prevent the testicle from descending, even if it were capable of doing so; the hernial sac holds the gland up. In separating the sac from the cord injury to the vessels should be anxiously avoided. When the testicle has been imperfectly descended for a sufficient time—say, until the patient is 7 years old—to show that the condition is permanent, operation is recommended, which may be done in one of three ways. 1. The hernial sac may be divided and stripped of the cord, allowing the testicle to descend into the scrotum. Any but the mildest scrotal fixation is merely a prelude to failure, anatomical or physiological. 2. The gland may be removed—an operation specially indicated when the malformation is unilateral. 3. The gland may be returned to the abdomen intraperitoneally—an operation which is especially indicated when the condition is bilateral and conserves the internal secretion of the testicle. Should the testicle be unable to furnish an external secretion spontaneously, no operation will enable it to do so; while experience has shown how prone orchidopexy is to be followed by atrophy and fibrosis. The article thus sums up the treatment. Up to the age of 5 years watch the case to decide if the testicle is merely late in descending or not. If a hernia is present, operate and conclude by doing orchidoplasty. From the age of 7 to 20 years operate whether a hernia is present or not. Do either orchidoplasty, orchidectomy, or orchidocœlioplasty. Above the age of 20 do orchidectomy. The imperfect descent of the testicle is masked if the accompanying hernia pushes the gland down into the scrotum. The condition is not recognised until the hernial sac is stripped up and removed and the radical cure done.

The testicle then assumes the position of imperfect descent. Such cases are recommended for scrotal orchidopexy.

DURING the continuance of the war the size of THE LANCET will be curtailed. This has been necessitated primarily by the difficulty in ensuring an adequate supply of paper, but the contributions of most of our correspondents on the continent have failed, and will fail, to reach us. Many special features of THE LANCET have had to be sacrificed for the time, and while we ask the indulgence of our readers for this, we promise to restore them at the earliest possible opportunity.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

Deputy Surgeon-General Donald Templeton Hoskyn has been promoted to the rank of Surgeon-General in His Majesty's Fleet (dated August 7th, 1914).

Fleet-Surgeon Daniel Joseph Patrick McNabb has been promoted to the rank of Deputy Surgeon-General in His Majesty's Fleet (dated August 7th, 1914).

ROYAL NAVAL VOLUNTEER RESERVE.

The undermentioned have been appointed Surgeons: William Charles Macartney (dated August 21st, 1914). David James Williamson (dated August 9th, 1914).

ROYAL ARMY MEDICAL CORPS.

Lieutenant-Colonel Arthur E. Morris is retained on the active list under the provisions of Article 120, Royal Warrant for Pay and Promotion, 1913, and to be Supernumerary (dated August 31st, 1914).

Lieutenant-Colonel William L'Estrange Eames, C.B., Australian Army Medical Corps, is granted the temporary rank of Lieutenant-Colonel (dated Sept. 2nd, 1914).

Major Edmund P. Hewitt, from the half-pay list, is restored to the establishment (dated August 21st, 1914).

The undermentioned Captains to be Majors (dated Sept. 1st, 1914): John W. S. Seccombe, Herbert V. Bagshawe, Robert J. Franklin, Maurice G. Winder, and George H. J. Brown.

Supernumerary Captain Harry S. Ranken, from the seconded list, is restored to the establishment (dated August 8th, 1914).

The undermentioned are granted the temporary rank of Lieutenant:—Dated August 10th, 1914: Francis William O'Connor and Charles Newton Binney. Dated August 11th, 1914: Leonard Leigh Hadley, Herbert Meredith Harrison, and Harold Eustace MacMahon Wall. Dated August 12th, 1914: Charles Hotham Evans and James Robertson Campbell Greenlees. Dated August 13th, 1914: William Allan Stewart, Trevor Abbott Lawder, Donald Keith McDowell, George William Smith, Alan Douglas Anderson, and Arthur Anderson Martin. Dated August 14th, 1914: John Hewat, Gilbert Laurie Kerr Finlay, Edward O'Connor, Aleck William Bourne, John Donal Carroll, William Duguid, Robert Henry Cummins Lyons, Arthur Starkie Plant, Cecil Bluett, Hubert Arnold Pallant, John William Pell, John Frederick Gwyther Richards, Arthur Henry Bindloss, Edward Jocelyn Nangle, Robert Mandeville Alcorn, and Geoffrey Percy Humphery. Dated August 15th, 1914: George Cuthbert Mura M'Gonigle, Wilberforce Smith, Cameron Robertson Gibson, Leslie Meakin, Richard Wayland Smith, Sidney Trevor Davies, Edward Aitken Seagar, James Noble Armstrong, Hugh Palliser Costobadie, Victor Farrar Soothill, Arthur Noel Hodges, Lieutenant Edward Ercell Steele, Canadian Army Medical Corps, Oscar Reginald Lewis Wilson, Charles Edmund Hibbard, Henry Gilbert Peake, Arthur Tilbury, Edward Mervyn Thomson, Robert Ernest Lee, Henry Dyas Gasteen, Andrew Dillon Carberry, and Herbert Frederick Wilfred Adams. Dated August 16th, 1914: Henry Cordner, Francis Hernaman-Johnson, Frank Davidson Cairns, Bernard Harry Wedd, and Geoffrey Mason Fleming. Dated August 17th, 1914: Arthur Turnbull, Henry Christian Ernest Quinn, and Sidney Smith. Dated August 18th, 1914: Frederick Cecil Kyle Austin, Allan Leslie Christie, and Alexander Tulloh Inglis Macdonald. Dated August 19th, 1914: Ivan Clarkson Maclean, John Cecil Hallinan, and Robert Sewers Berry. Dated August 20th, 1914: Major Thomas Kay (Royal Army Medical Corps, Territorial Force), Arthur Griffith Maitland-Jones, Ian Macdonald Brown, and Byron Levick Hutchence. Dated August 22nd, 1914: Edward William Archer, Galvin Alexander Elmslie Argo, Robert Harper Alexander, Leslie Adamson, John Scouler Buchanan, Mark Blakiston Baines, Gideon Robert Ernest Colquhoun, Michael Joseph Cronin, Spencer Stawell Crosse, Durie Avery Chamberlain, David Duncan Craig, Walter Dawson, Cosmo William Fowler, Rudolf William Galloway, Harry Leroy Satterlee Griffiths, Thomas Gilchrist, Ronald Nelson Hunter, Charles Herbert Hart, Robert Hamer Hodges, William Henderson, Thomas Herbert Williams Idris, Francis Henry Moxon, James Murray McLaggan, Douglas McAlpine, Francis Leslie Nash-Wortham, John Proctor, Cresswell Lee Pattison, William Douglas Reid, Gerald Noel Boyd Sebastian, Issachar Reuben Smith, Thomas Sidney Stafford, Andrew Topping, Edward Hugo Udall, and John Mayor Wilson. Dated August 24th, 1914: Howard Havelock Hepburn and Ambrose Lorne Lockwood.

The undermentioned Sergeant-Majors to be Quartermasters, with the honorary rank of Lieutenant:—Dated August 12th, 1914: George John Smith, Arthur Huntingford, John Wickersham, Frank Higdon, George Thomas Bray, Edwin Birch, Burton Charles Dring, Arthur George Powell, Robert Scott Adie Reynolds, Charles Drury, and Frederick John Filmer.

The appointment to temporary Second Lieutenancies of the undermentioned is cancelled: Frederick Sowrey and Archibald Carmichael Williamson.

The date of the grant of the temporary rank of Lieutenant to Lancelot Gerard Bourdillon is August 10th, 1914, and not as previously stated.

SPECIAL RESERVE OF OFFICERS.

Royal Army Medical Corps.

Philip Seston Vickerman, late Lieutenant, Royal Army Medical Corps, Special Reserve, to be Lieutenant (dated August 11th, 1914). John William McNee to be Lieutenant (dated August 13th, 1914).

No. 18 Field Ambulance:—The undermentioned Captains to be Majors: Charles Roberts and Henry G. Smeeth (dated August 19th, 1914).

The undermentioned officers of the Royal Army Medical Corps (Territorial Force) to be appointed to the Ambulance:—Dated August 4th, 1914: Captain Albert Ramsbottom, 1st East Lancashire Field Ambulance, to be Captain; Captain William Fraser Munro, 2nd East Lancashire Field Ambulance, to be Captain; Lieutenant Kingsmill Williams Jones, 3rd East Lancashire Field Ambulance, to be Lieutenant; Lieutenant William James Reid, 3rd East Lancashire Field Ambulance, to be Lieutenant; Captain David Brynmor Chilies-Evans, 3rd Welsh Field Ambulance, to be Captain (dated August 5th, 1914).

The undermentioned Cadets and ex-Cadets of the Officers Training Corps to be Lieutenants:—Arthur Joseph Beveridge (dated July 27th, 1914), John Mitchell Watt (dated August 4th, 1914). Dated August 5th, 1914: James Edward Jameson, John Francis Lyons, Cyril Edward Hammond Gater, Thomas Charles Studley, Charles Dudley Maybury Buckley, John Cecil Alexander Dowse, Harry Ernest Bantry White, Mortimer McGee Russell, Joseph Patrick Quinn, and Edgar Llewellyn Foot Nash. Dated August 6th, 1914: Robert Lance Impey, Bertrand Cecil Owens Sheridan, Douglas Chetham Pim, George Albert Clark, and Carl Damien Newman. Dated August 8th, 1914: John Stuart Dockrill, Douglas Cran, Thomas Clifford Owen, George Dalziel, and Norman Braithwaite. Dated August 9th, 1914: John Armstrong Crozier Kidd, John Lansdowne Perceval, Edward Noel Hillman Gray, Richard Edward Grandy, and Maurice Baylis King. Dated August 10th, 1914: Charles Frederick Hacker and James Kenworthy Johnston Haworth. Dated August 11th, 1914: Eric Spanton Mawe. Dated August 12th, 1914: James Carter Ogilvie. Dated August 13th, 1914: Cecil McLaren West and Frank Percy Freeman.

Supplementary to Regular Units or Corps.

The undermentioned cadets and ex-cadets of the Officers Training Corps to be Lieutenants (on probation): John Duncan Steele and Samuel Durham Lodge (dated August 5th, 1914); John James Digges La Touche, Francis Hennessey Goss, and George Vincent Stockdale (dated August 7th, 1914); Charles Gordon Todd (dated August 8th, 1914); Henry Evers and Frank Cecil Harrison (dated August 10th, 1914); James Purdie and Geoffrey Say Trower (dated August 11th, 1914); Alexander Glen and Peter Williams Edwards (dated August 12th, 1914); George Charles Louis Woodroffe (dated August 13th, 1914); Oswald Duke Jarvis (dated August 14th, 1914); William Barclay (dated August 16th, 1914); Alfred Leopold Robertson, William Walford Salisbury Sharpe, William Charles Bernard Meyer, David Stanley Martin, and Robert McKinlay (dated August 17th, 1914).

The undermentioned to be Lieutenants: John Fraser, late Lieutenant, Royal Army Medical Corps Special Reserve (dated August 11th, 1914). On probation: Henry Searle Baker (dated August 13th, 1914), Oswald Cornwallis Stratford Tandy (dated August 14th, 1914), and John Lane Kilbride (dated August 16th, 1914).

TERRITORIAL FORCE.

Royal Army Medical Corps.

Nottinghamshire (Sherwood Rangers): Surgeon Captain

George Thomson to be Surgeon-Major (dated February 26th, 1914.)

Eastern Mounted Brigade Field Ambulance: Meredith Sedgwick Doubble (late Captain, Eastern Mounted Brigade Field Ambulance) to be Captain (dated August 26th, 1914)

2nd London (City of London) Field Ambulance: Louis Courtauld to be Lieutenant (dated August 26th, 1914).

1st North Midland Field Ambulance: Herbert Woodley Joyce to be Lieutenant (dated August 22nd, 1914).

2nd North Midland Field Ambulance: To be Lieutenants: Lionel Thomas Challenor and Maurice Holdsworth Barton (dated August 26th, 1914).

1st South Midland Field Ambulance: The undermentioned Captains to be Majors: William Malcolm Sturrock and William McCall (dated August 26th, 1914).

2nd South Midland Field Ambulance: Lieutenant John Dale to be Captain (dated August 26th, 1914). To be Lieutenants: William James Charles Bruerton Pitt, Ernest Joseph Clifford Groves, and Ralph Alexander Broderick (dated August 22nd, 1914), and Kenneth Arly Petersfield Rynd Murray (dated August 29th, 1914).

3rd Northumberland Field Ambulance: Lieutenant August F. Perl to be Captain (dated July 13th, 1914).

1st Welsh Field Ambulance: Joseph Muller Fonseca to be Lieutenant (dated August 26th, 1914).

3rd Lowland Field Ambulance: Lieutenant Arthur Cotterell McMaster, from the 1st New Zealand Field Ambulance, to be Lieutenant (dated August 29th, 1914), and James Abbey Henderson to be Lieutenant (dated August 22nd, 1914).

Highland Mounted Brigade Field Ambulance: Evan Alexander Mackenzie to be Lieutenant (dated August 22nd, 1914).

Notts and Derby Mounted Brigade Field Ambulance: Oswald Kentish Wright to be Captain (dated July 31st, 1914).

1st Home Counties Field Ambulance: Robert Reginald John Holmes to be Lieutenant (dated August 22nd, 1914).

1st East Lancashire Field Ambulance: To be Lieutenants: John Morley, Frederick Stanley Bedale, and Alexander Morrison Mackay (dated August 22nd, 1914).

2nd East Lancashire Field Ambulance: Lieutenant William J. Purves to be Captain (dated June 21st, 1914).

3rd East Lancashire Field Ambulance: To be Lieutenants: John Cecil Jefferson, Nicholas Hopkins Henry Haskins, and Frank Kershaw Tomlinson (dated August 22nd, 1914).

3rd West Lancashire Field Ambulance: Harry Middleton to be Lieutenant (dated August 22nd, 1914).

1st Northumbrian Field Ambulance: Major Frank Hawthorn to be Lieutenant-Colonel (dated August 22nd, 1914).

2nd Northumbrian Field Ambulance: Captain Duncan A. Cameron to be Major (dated August 8th, 1914).

1st West Riding Field Ambulance: Harry Lee to be Lieutenant (dated August 22nd, 1914).

2nd West Riding Field Ambulance: The undermentioned Captains to be Majors: Harold Collinson (dated August 5th, 1914) and Frederick Whalley (dated August 6th, 1914).

1st London (City of London) General Hospital: Major D'Arcy Power to be Lieutenant-Colonel (dated August 22nd, 1914).

4th London General Hospital: Lieutenant-Colonel Nestor I. C. Tirard, from the Mobilisation List, to be Lieutenant-Colonel on the permanent personnel (dated August 26th, 1914). The undermentioned officers to be seconded (dated August 26th, 1914): Major Richard G. Hebb, Captain Raymond H. P. Crawfurd, Captain Francis Jaffrey, and Captain Edmund I. Spriggs. Seconded under the conditions of paragraph 112 of the Territorial Regulations: Captain Ernest R. Carling (dated August 26th, 1914) and Captain William Turner (dated August 29th, 1914).

2nd Northern General Hospital: Joseph le Fleming Coy Burrow to be Captain (dated August 26th, 1914).

4th Northern General Hospital: Lieutenant-Colonel George S. Stephenson resigns his commission (dated August 26th, 1914). Hugh Bernard Willoughby Smith to be Captain (dated August 26th, 1914).

5th Northern General Hospital: Captain Robert W. W. Henry, from the Mobilisation List, to be Major on the permanent personnel (dated August 22nd, 1914).

1st Southern General Hospital:—To be Captains: Bernard Joseph Ward and Samuel George Webb (dated August 11th, 1914).

5th Southern General Hospital: Lieutenant-Colonel and Honorary Surgeon-General George G. Sparrow resigns his commission (dated August 22nd, 1914). Lieutenant-Colonel John R. S. Robertson resigns his commission (dated August 22nd, 1914). Major Charles F. Routh to be Lieutenant-Colonel (dated August 22nd, 1914). The undermentioned Captains to be Majors: Charles A. S. Ridout and Rolland A. Dove (dated August 22nd, 1914). To be Captains: Hugh Brooming Taylor Morgan, John Blackwood, Henry Lloyd Driver, William Carling, and Philip Herbert Green (dated August 22nd, 1914).

2nd Eastern General Hospital: Quartermaster and Honorary Major Theodore F. H. Briscoe is seconded (dated August 29th, 1914). Harcourt Howard Ross to be Quartermaster with the honorary rank of Lieutenant (dated August 29th, 1914).

1st Western General Hospital: Pantland Hick to be Captain (dated August 22nd, 1914).

4th Scottish General Hospital: Captain John S. Barr resigns his commission (dated August 26th, 1914).

1st London (City of London) Sanitary Company: To be Lieutenants: Arthur Thomas Pitts and Evelyn Charles Sprawson (dated August 22nd, 1914). Cresacre George Moor to be Lieutenant (Supernumerary) (dated August 26th, 1914).

Sanitary Service: Captain Middleton Connon is seconded (dated August 29th, 1914).

Sanitary Officers: Captain John Dale, from the 2nd South Midland Field Ambulance, is appointed Sanitary Officer to the South Midland Territorial Division (dated August 26th, 1914).

North Midland Clearing Hospital: Bernard Stracey to be Captain (dated August 22nd, 1914).

Attached to Units other than Medical Units.—To be Captains: Lieutenant Richard P. Ryan (dated Jan. 1st, 1914) and Charles Wright Edwards (dated August 26th, 1914). Major George Magill Dobson, Reserve of Officers, to be Major (dated August 1st, 1914). Surgeon-Lieutenant S. E. Rigg to be Surgeon-Captain (dated July 15th, 1914). To be Lieutenants: George Alexander Brogden (dated August 22nd, 1914), Charles Gordon Brentnall and Leonard West (dated August 26th, 1914), and Reginald Samuel Sherard Statham (dated August 29th, 1914).

TERRITORIAL FORCE RESERVE.

Royal Army Medical Corps.

Captain Leonard B. Cane, from Attached to Units other than Medical Units, to be Captain (dated August 22nd, 1914).

ORDER OF THE HOSPITAL OF ST. JOHN OF JERUSALEM IN ENGLAND.

The King has sanctioned the following promotions in, and appointments to, the Order of the Hospital of St. John of Jerusalem in England:—As Knights of Grace: Surgeon-General Sir Arthur William May, K.C.B., K.H.P., R.N.; Colonel John Edward Squire, C.B., M.D., F.R.C.P. (from Honorary Associate); and John Alexander Sutherland, M.B. Edin. (from Honorary Associate).

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

In the 97 English and Welsh towns with populations exceeding 50,000 persons at the last Census, 9213 births and 4272 deaths were registered during the week ended Saturday, August 22nd. The annual rate of mortality in these towns, which had been 12·1, 12·0, and 12·6 per 1000 of their aggregate population, estimated at 18,120,059 persons at the middle of this year, declined to 12·3 per 1000 in the week under notice. During the first seven weeks of the current quarter the mean annual death-rate in these towns averaged 11·9, against a corresponding rate of 11·7 per 1000 in London. Among the several towns the death-rate in the week under review ranged from 3·5 in Coventry, 4·1 in Reading, 4·2 in Blackpool, 5·1 in Enfield, and 5·8 in Oxford, to 17·7 in Wigan, 18·5 in Bootle, 18·8 in Warrington, 21·2 in Dewsbury, and 22·2 in Sunderland.

The 4272 deaths from all causes were 94 below the number in the previous week, and included 653 which were referred to the principal epidemic diseases, against numbers steadily rising from 394 to 588 in the six preceding weeks. Of these 653 deaths, 446 resulted from infantile diarrhœal diseases, 92 from measles, 51 from whooping-cough, 32 from diphtheria, 23 from scarlet fever, and 9 from enteric fever, but not one from small-pox. The mean annual death-rate from these diseases was equal to 1·9, or 0·2 per 1000 above the rate in the previous week. The deaths of infants (under 2 years) from diarrhœa and enteritis, which had increased from 112 to 348 in the six preceding weeks, further rose to 446 in the week under notice, and included 109 in London, 31 in Sheffield, 30 in Liverpool, 25 in Birmingham, 18 in Sunderland, 15 in Manchester and in Newcastle, and 14 in Leeds. The deaths referred to measles, which had been 104, 99, and 111 in the three preceding weeks, declined to 92, of which 36 were registered in London, 10 in Liverpool, 8 in Oldham, 6 in West Ham, 6 in Leeds, 4 in Manchester, 4 in Sheffield, and 3 each in Birmingham and St. Helens. The fatal cases of whooping-cough, which had been 71, 52, and 65 in the three preceding weeks, fell to 51; 13 deaths occurred in London, 7 in Leeds, and 2 each in Croydon, Leicester, Liverpool, Oldham, and Newcastle. The deaths attributed to diphtheria, which had declined from 46 to 31 in the four preceding weeks, were 32 in the week ended August 22nd, of which 7 were registered in London, 3 in Merthyr Tydfil, and 2 each in Portsmouth, Norwich,

Birmingham, Nottingham, Hull, and Newcastle. The deaths referred to scarlet fever, which had been 18, 15, and 19 in the three preceding weeks, further rose to 23, and included 8 in London and 3 in Birmingham. The fatal cases of enteric fever, which had been 11, 11, and 14 in the three preceding weeks, fell to 9, of which 4 occurred in Liverpool.

The number of scarlet fever patients under treatment in the Metropolitan Asylums Hospitals and the London Fever Hospital, which had been 3154, 3155, and 3072 at the end of the three preceding weeks, were 3071 on Saturday, August 22nd; 414 new cases were admitted during the week, against 405, 378, and 335 in the three preceding weeks. These hospitals also contained on August 22nd 1016 cases of diphtheria, 114 of whooping-cough, 44 of enteric fever, and 17 of measles, but not one of small-pox. The 1109 deaths from all causes in London were 53 in excess of the number in the previous week, and corresponded to an annual death-rate of 12·8 per 1000. The deaths referred to diseases of the respiratory system, which had been 113, 122, and 116 in the three preceding weeks, rose to 143 in the week under notice, and were 13 above the number in the corresponding week of last year.

Of the 4272 deaths from all causes in the 97 towns, 185 resulted from different forms of violence, and 356 were the subject of coroners' inquests, while 1336 occurred in public institutions. The causes of 36, or 0·8 per cent., of the total deaths were not certified either by a registered medical practitioner or by a coroner after inquest. All the causes of death were duly certified in London and in 12 of its 14 suburban districts, in Leeds, Bristol, Bradford, Hull, Newcastle, and in 61 other smaller towns. Of the 36 uncertified causes of death, 8 were registered in Birmingham, 6 in Liverpool, 3 each in West Bromwich and Bootle, and 2 each in Blackburn, Sheffield, Sunderland, and Gateshead.

In the 97 English and Welsh towns 8834 births and 4720 deaths were registered during the week ended Saturday, August 29th. The annual rate of mortality in these towns, which had been 12·0, 12·6, and 12·3 per 1000 in the three preceding weeks, rose to 13·6 per 1000 in the week under notice. During the first eight weeks of the current quarter the mean annual death-rate in these towns averaged 12·1, against a corresponding rate of 12·0 per 1000 in London. Among the several towns the death-rate last week ranged from 5·3 in East Ham, 5·9 in Ealing, 6·3 in Ilford, 6·7 in Bath, and 6·8 in Enfield and Southend-on-Sea, to 21·7 in Oldham, 22·0 in South Shields, 22·9 in Tynemouth, 23·2 in Sunderland, and 26·3 in Bootle.

The 4720 deaths from all causes were 452 in excess of the number in the previous week, and included 890 which were referred to the principal epidemic diseases, against numbers steadily increasing from 394 to 653 in the seven preceding weeks. Of these 890 deaths, 677 resulted from infantile diarrhœal diseases, 92 from measles, 52 from whooping-cough, 35 from diphtheria, 20 from scarlet fever, and 14 from enteric fever, but not one from small-pox. The mean annual death-rate from these diseases was equal to 2·6, or 0·7 per 1000 above the rate in the previous week. The deaths of infants (under 2 years) from diarrhœa and enteritis, which had steadily risen from 112 to 446 in the seven preceding weeks, further rose to 677, of which 161 were registered in London, 61 in Liverpool, 37 in Birmingham, 30 in Leeds, 28 in Manchester, 23 in West Ham and in Sheffield, and 22 in Stoke-on-Trent and in Hull. The deaths referred to measles, which had been 99, 111, and 92 in the three preceding weeks, were again 92 last week, and included 34 in London, 9 in Liverpool, 9 in Leeds, 8 in Oldham, and 4 in Sheffield. The fatal cases of whooping-cough, which had been 52, 65, and 51 in the three preceding weeks, were 52 last week, of which 16 occurred in London, 4 in Leeds, 3 in Liverpool, and 3 in Manchester. The deaths attributed to diphtheria, which had been 39, 31, and 32 in the three preceding weeks, rose to 35, and included 13 in London, 4 in Birmingham, 3 in Liverpool, and 2 each in Ipswich, Stoke-on-Trent, and Oldham. The deaths referred to scarlet fever, which had been 15, 19, and 23 in the three preceding weeks, fell to 20; 4 deaths were recorded in London, 3 in Birmingham, 2 in Liverpool, and 2 in Manchester. The fatal cases of enteric fever, which had been 11, 14, and 9 in the three preceding weeks, rose to 14, of which 4 occurred in London, 2 in Preston, and 2 in Cardiff.

The number of scarlet fever patients under treatment in the Metropolitan Asylums Hospitals and the London Fever Hospital, which had been 3155, 3072, and 3071 at the end of the three preceding weeks, had increased to 3216 on Saturday, August 29th; 536 new cases were admitted during the week against 378, 335, and 414 in the three preceding weeks. These hospitals also contained on the same date 1031 cases of diphtheria, 80 of whooping-cough, 39 of enteric fever, and 17 of measles, but not one of small-pox. The 1179 deaths from all causes in London were 70 in excess of the number in the previous week, and corresponded to an annual death-rate of 13·6 per 1000. The deaths referred to diseases of the respiratory system, which had been 122, 116, and 143 in the three preceding weeks, fell to 132 in the week under notice, but were 4 above the number in the corresponding week of last year.

Of the 4720 deaths from all causes in the 97 towns, 167 resulted from different forms of violence, and 339 were the subject of coroners' inquests, while 1393 occurred in public institutions. The causes of 33, or 0·7 per cent., of the total deaths were not certified either by a registered medical practitioner or by a coroner after inquest. All the causes of death were duly certified in Sheffield, Leeds, Bristol, West Ham, Bradford, Newcastle-on-Tyne, and in 68 other smaller towns. Of the 33 uncertified causes of death 6 were registered in Birmingham, 4 in South Shields, and 3 in Liverpool.

HEALTH OF SCOTCH TOWNS.

In the 16 largest Scotch towns with an aggregate population estimated at 2,293,200 persons at the middle of this year, 1186 births and 658 deaths were registered during the week ended Saturday, August 22nd. The annual rate of mortality in these towns, which had been 12·9, 11·6, and 13·8 per 1000 in the three preceding weeks, further rose to 15·0 per 1000 in the week under notice. During the first seven weeks of the current quarter the mean annual death-rate in these towns averaged 13·3, against 11·9 per 1000 in the 97 large English towns. Among the several towns the death-rate ranged from 10·8 in Hamilton, 11·0 in Falkirk, and 11·7 in Clydebank, to 16·7 in Aberdeen, 17·6 in Motherwell and in Kilmarnock, and 18·9 in Ayr.

The 658 deaths from all causes were 50 in excess of the number in the previous week, and included 78 which were referred to the principal epidemic diseases, against numbers rising from 49 to 73 in the three preceding weeks. Of these 78 deaths, 40 resulted from infantile diarrhœal diseases, 13 from whooping-cough, 11 from diphtheria, 6 each from scarlet fever and enteric fever, and 2 from measles, but not one from small-pox. The mean annual death-rate from these epidemic diseases was equal to 1·8, against 1·9 per 1000 in the 97 large English towns. The deaths of infants (under 2 years) attributed to diarrhœa and enteritis, which had been 31, 29, and 36 in the three preceding weeks, further rose to 40 in the week under notice, and included 26 in Glasgow, 3 each in Dundee and Leith, and 2 each in Paisley and Greenock. The deaths referred to whooping-cough, which had been 7, 14, and 16 in the three preceding weeks, fell to 13, of which 9 were registered in Glasgow. The fatal cases of diphtheria, which had been 3, 5, and 7 in the three preceding weeks, further rose to 11, of which 5 occurred in Glasgow and 2 in Edinburgh. Of the 6 deaths attributed to scarlet fever, which were slightly in excess of the average in the earlier weeks of the quarter, 3 were recorded in Glasgow. The 6 deaths referred to enteric fever comprised 5 in Glasgow and 1 in Kilmarnock, and were double the average in the earlier weeks of the quarter. The fatal cases of measles occurred in Glasgow and Dundee.

The deaths referred to diseases of the respiratory system, which had been 61, 55, and 63 in the three preceding weeks, further rose to 69 in the week under review, and 33 deaths resulted from various forms of violence, against 28 and 25 in the two preceding weeks.

In the 16 largest Scotch towns 1059 births and 631 deaths were registered during the week ended Saturday, August 29th. The annual rate of mortality in these towns, which had been 11·6, 13·8, and 15·0 per 1000 in the three preceding weeks, declined to 14·4 per 1000 in the week under review. During the first eight weeks of the current quarter the mean annual death-rate in these towns averaged 13·4, against 12·1 per 1000 in the 97 large English towns. Among the several towns the death-rate during the week ranged from 4·1 in Hamilton, 5·1 in Kirkcaldy, and 7·3 in Kilmarnock, to 20·0 in Perth, 21·1 in Clydebank, and 23·6 in Ayr.

The 631 deaths from all causes were 27 fewer than the number in the previous week, and included 100 which were referred to the principal epidemic diseases, against numbers rising from 49 to 78 in the four preceding weeks. Of these 100 deaths, 64 resulted from infantile diarrhœal diseases, 15 from whooping-cough, 8 from scarlet fever, 6 from diphtheria, 6 from enteric fever, and 1 from measles, but not one from small-pox. The mean annual death-rate from these epidemic diseases was equal to 2·3, against 2·6 per 1000 in the 97 large English towns. The deaths of infants (under 2 years) attributed to diarrhœa and enteritis, which had been 29, 35, and 40 in the three preceding weeks, further rose to 64 in the week under review, and included 45 in Glasgow and 3 each in Edinburgh, Dundee, and Greenock. The deaths referred to whooping-cough, which had been 14, 16, and 13 in the three preceding weeks, rose to 15 last week, of which 12 were registered in Glasgow. The fatal cases of scarlet fever, which had increased from 2 to 6 in the four preceding weeks, further rose to 8, and included 6 in Glasgow. The deaths attributed to diphtheria, which had risen from 3 to 11 in the five preceding weeks, declined to 6 last week, and comprised

3 in Glasgow, 2 in Edinburgh, and 1 in Aberdeen. The 6 deaths referred to enteric fever, which were all recorded in Glasgow, were double the average in the earlier weeks of the quarter. The fatal case of measles occurred in Glasgow.

The deaths referred to diseases of the respiratory system, which had been 55, 53, and 69 in the three preceding weeks, were 70 in the week under notice, and 25 deaths resulted from different forms of violence, against 25 and 33 in the two preceding weeks.

HEALTH OF IRISH TOWNS.

In the 27 town districts of Ireland with an aggregate population estimated at 1,205,280 persons at the middle of this year, 606 births and 373 deaths were registered during the week ended Saturday, August 22nd. The annual rate of mortality in these towns, which had been 15·7, 16·4, and 15·3 per 1000 in the three preceding weeks, rose to 16·1 per 1000 in the week under notice. During the first seven weeks of the current quarter the mean annual death-rate in these towns averaged 15·7, against 11·9 and 13·3 per 1000 in the English and Scotch towns respectively. The death-rate was equal to 16·6 in Dublin (against 12·8 in London and 15·0 in Glasgow), 17·6 in Belfast, 24·5 in Cork, 10·1 in Londonderry, 13·5 in Limerick, and 17·1 in Waterford, while in the 21 smaller towns the mean death-rate did not exceed 11·1 per 1000.

The 373 deaths from all causes were 19 in excess of the number in the previous week, and included 51 which resulted from the principal epidemic diseases, against 40 and 49 in the two preceding weeks. Of these 51 deaths, 29 resulted from infantile diarrhœal diseases, 11 from measles, 7 from whooping-cough, 2 from enteric fever, and 1 each from scarlet fever and diphtheria, but not one from small-pox. The mean annual death-rate from these diseases was equal to 2·2, against corresponding rates of 1·9 and 1·8 per 1000 in the English and Scotch towns respectively. The deaths of infants (under 2 years) attributed to diarrhœa and enteritis, which had been 21, 18, and 26 in the three preceding weeks, further rose to 29 in the week under notice, of which 13 were registered in Dublin, 9 in Belfast, and 4 in Cork. The deaths referred to measles, which had been 11, 7, and 8 in the three preceding weeks, rose to 11, and comprised 7 in Belfast, 3 in Dublin, and 1 in Sligo. The fatal cases of whooping-cough, which had been 9, 6, and 8 in the three preceding weeks, were 7 in the week under review, of which 3 each occurred in Belfast and Cork, and 1 in Dublin. The deaths from enteric fever were registered in Belfast and Ballymena, and those from scarlet fever and diphtheria in Cork and Dublin respectively.

The deaths referred to diseases of the respiratory system, which had been 42, 47, and 46 in the three preceding weeks, were 47 in the week under notice. Of the 373 deaths from all causes, 127, or 34 per cent., occurred in public institutions, and 5 resulted from different forms of violence. The causes of 7, or 1·9 per cent., of the total deaths were not certified either by a registered medical practitioner or by a coroner after inquest; in the 97 English towns the proportion of uncertified causes did not exceed 0·8 per cent.

In the 27 town districts of Ireland 633 births and 406 deaths were registered during the week ended Saturday, August 29th. The annual rate of mortality in these towns, which had been 16·4, 15·3, and 16·1 per 1000 in the three preceding weeks, further rose to 17·6 per 1000 in the week under notice. During the first eight weeks of the current quarter the mean annual death-rate in these towns averaged 16·0, against 12·1 and 13·4 per 1000 in the English and Scotch towns respectively. The annual death-rate during the week was equal to 18·8 in Dublin (against 13·6 in London and 15·1 in Glasgow), 18·9 in Belfast, 14·3 in Cork, 10·1 in Londonderry, 21·7 in Limerick, and 17·1 in Waterford, while in the 21 smaller towns the mean death-rate did not exceed 14·7 per 1000.

The 406 deaths from all causes were 33 in excess of the number in the previous week, and included 91 which were referred to the principal epidemic diseases, against numbers increasing from 40 to 51 in the three preceding weeks. Of these 91 deaths, 67 resulted from infantile diarrhœal diseases, 7 from whooping-cough, 5 each from scarlet fever and diphtheria, 4 from measles, and 3 from enteric fever, but not one from small-pox. The mean annual death-rate from these epidemic diseases was equal to 3·9, against corresponding rates of 2·6 and 2·3 per 1000 in the English and Scotch towns respectively. The deaths of infants (under 2 years) attributed to diarrhœa and enteritis, which had been 18, 26, and 29 in the three preceding weeks, further increased to 67, of which 28 were registered in Dublin, 23 in Belfast, 4 in Cork, and 3 Lisburn. The 7 deaths referred to whooping-cough, comprising 6 in Belfast and 1 in Dublin, were equal to the average in the three preceding weeks. The 5 fatal cases of scarlet fever were slightly in excess of the numbers in recent weeks, and included 2 in Belfast. Of the 5 deaths attributed to diphtheria 4 occurred in Dublin and 1 in Belfast. The deaths referred to measles, which had been 7, 8, and 11 in the three preceding weeks, fell to 4 last week, of which 2 were registered in Belfast. Of the 3 fatal cases of enteric fever, 2 were recorded in Dublin and 1 in Ballymena.

The deaths referred to diseases of the respiratory system, which had been 47, 46, and 47 in the three preceding weeks, fell to 43 in the week under notice. Of the 406 deaths from all causes, 110, or 27 per cent., occurred in public institutions, and 8 resulted from different forms of violence. The causes of 8, or 2·0 per cent., of the total deaths were not certified either by a registered medical practitioner or by a coroner after inquest; in the 97 English towns the proportion of uncertified causes did not exceed 0·7 per cent.

VITAL STATISTICS OF LONDON DURING JULY, 1914.

In the accompanying table will be found summarised complete statistics relating to sickness and mortality in the City of London and in each of the metropolitan boroughs. With regard to the notified cases of infectious diseases, it appears that the number of persons reported to be suffering from one or other of the 10 diseases specified in the table was equal to an annual rate of 7·8 per 1000 of the population, estimated at 4,516,612 persons in the middle of the year; in the three preceding months the rates were 6·3, 7·5, and 7·6 per 1000 respectively. The lowest rates during July were recorded in Paddington, Fulham, Hampstead, Hackney, and Wandsworth; and the highest rates in the City of Westminster, Chelsea, Stepney, Southwark, and Deptford. Scarlet fever showed an increased prevalence as compared with other recent months, and was proportionally most prevalent in the month under notice in the City of Westminster, Chelsea, Stepney, Southwark, Camberwell, Deptford, and Greenwich. The Metropolitan Asylums Hospitals contained 3113 scarlet fever patients at the end of July, against 2826, 2859, and 3045 at the end of the three preceding months; the weekly admissions averaged 410, against 312, 376, and 396 in the three preceding months. Diphtheria was slightly less prevalent than in either of the two preceding months; the greatest proportional prevalence of this disease during July was recorded in Chelsea, St. Marylebone, St. Pancras, Stoke Newington, Bethnal Green, Stepney, Poplar, and Woolwich. The number of diphtheria patients under treatment in the Metropolitan Asylums Hospitals, which had been 1121, 1078, and 1080 at the end of the three preceding months, had further declined to 1042 at the end of July; the weekly admissions averaged 131, against 130 and 140 in the two preceding months. The prevalence of enteric fever showed a slight increase; this disease was proportionally most prevalent in Chelsea, the City of Westminster, St. Marylebone, Wandsworth, and Lewisham. There were 36 enteric fever patients under treatment in the Metropolitan Asylums Hospitals at the end of July, against 39 and 40 at the end of the two preceding months; the weekly admissions averaged 6 during July, against 6 and 8 in the two preceding months. Erysipelas was proportionally most prevalent in Finsbury, Shoreditch, Bethnal Green, Stepney, Southwark, and Deptford. The 20 cases of puerperal fever notified during the month included 4 in Stepney, and 2 each in Fulham, Hackney, Southwark, Lambeth, and Wandsworth. The 5 cases of cerebro-spinal meningitis included 2 in Lambeth, and 1 each in Finsbury, Shoreditch, and Wandsworth; and the 9 cases of poliomyelitis included 3 in Stepney, 2 in Lambeth, and 1 each in Hampstead, Southwark, Bermondsey, and Wandsworth.

The mortality statistics relate to the deaths of persons actually belonging to the several boroughs, the deaths occurring in institutions having been distributed among the boroughs in which the deceased persons had previously resided. During the four weeks ending August 1st the deaths of 3912 London residents were registered, equal to an annual rate of 11·3 per 1000; in the three preceding months the death-rates were 13·8, 12·9, and 12·6 per 1000 respectively. The death-rates during July ranged from 7·1 in the City of London, 7·3 in Hampstead, 7·5 in Wandsworth, 8·8 in Stoke Newington and in Lewisham, and 8·9 in Paddington, to 13·8 in Stepney, 14·7 in Southwark, 14·9 in Holborn and in Bermondsey, 16·7 in Finsbury, and 18·8 in Shoreditch. The 3912 deaths from all causes included 443 which were referred to the principal infectious diseases; of these, 148 resulted from measles, 17 from scarlet fever, 37 from diphtheria, 70 from whooping-cough, 11 from enteric fever, and 160 from diarrhœa and enteritis among children under 2 years of age. No death from any of these diseases was recorded during July in the City of London or in Stoke Newington; among the other boroughs they caused the lowest death-rates in the City of Westminster, Hampstead, Wandsworth, and Lewisham; and the highest rates in Finsbury, Shoreditch, Stepney, Poplar, Bermondsey, and Greenwich. The 148 fatal cases of measles were 48 in excess of the corrected

ANALYSIS OF SICKNESS AND MORTALITY STATISTICS IN LONDON DURING JULY, 1914.

(Specially compiled for THE LANCET.)

CITIES AND BOROUGHS.	Estimated population in the middle of 1914.	NOTIFIED CASES OF INFECTIOUS DISEASE.												DEATHS FROM PRINCIPAL INFECTIOUS DISEASES.									Deaths from all causes.	Death-rate per 1000 living.†
		Small-pox.	Scarlet fever.	Diphtheria.*	Typhus fever.	Enteric fever.	Other continued fevers.	Puerperal fever.	Erysipelas.	Cerebro-spinal meningitis.	Poliomyelitis.	Total.	Annual rate per 1000 persons living.	Small-pox.	Measles.	Scarlet fever.	Diphtheria.*	Whooping-cough.	Enteric fever.	Diarrhœa and enteritis (under 2 years).	Total.	Annual rate per 1000 persons living.		
LONDON...	4,516,612	—	1732	569	—	50	1	20	308	5	9	2694	7·8	—	148	17	37	70	11	160	443	1·3	3912	11·3
West Districts.																								
Paddington	142,055	—	36	15	—	—	—	—	7	—	—	58	5·3	—	1	1	1	4	—	4	11	1·0	98	8·9
Kensington	170,817	—	63	13	—	1	—	1	11	—	—	89	6·8	—	2	1	2	—	—	4	9	0·7	124	9·5
Hammersmith	124,750	—	54	11	—	—	—	1	3	—	—	69	7·2	—	1	—	—	2	—	4	7	0·7	128	13·2
Fulham	158,849	—	51	9	—	2	—	2	9	—	—	73	6·0	—	2	—	—	2	1	6	11	0·9	133	11·3
Chelsea	63,791	—	32	11	—	2	—	—	2	—	—	47	9·6	—	—	—	1	1	1	1	4	0·8	52	10·1
City of Westminster	152,346	—	85	16	—	3	—	—	5	—	—	109	9·3	—	—	—	1	1	2	1	5	0·4	135	12·2
North Districts.																								
St. Marylebone	112,892	—	33	25	—	3	—	—	1	—	—	62	7·2	—	—	2	2	1	—	3	8	0·9	93	10·9
Hampstead	86,731	—	15	6	—	—	—	—	5	—	1	27	4·1	—	2	—	—	—	—	—	2	0·3	46	7·3
St. Pancras	212,497	—	85	33	—	3	—	—	16	—	—	137	8·4	—	1	1	3	—	—	10	15	0·9	206	12·6
Islington	324,764	—	92	49	—	4	—	1	26	—	—	172	6·9	—	12	1	1	7	1	6	28	1·1	290	11·3
Stoke Newington	50,454	—	16	11	—	1	—	—	1	—	—	29	7·5	—	—	—	—	—	—	—	—	—	26	8·8
Hackney	223,724	—	47	28	—	1	—	2	15	—	—	93	5·4	—	2	—	2	4	—	9	17	1·0	173	10·2
Central Districts.																								
Holborn	45,861	—	19	5	—	1	—	—	—	—	—	25	7·1	—	2	1	—	1	—	1	5	1·4	52	14·9
Finsbury	83,212	—	32	7	—	1	—	—	9	1	—	50	7·8	—	11	—	—	5	—	4	20	3·1	108	16·7
City of London	17,129	—	8	1	—	—	—	—	—	—	—	9	6·8	—	—	—	—	—	—	—	—	—	9	7·1
East Districts.																								
Shoreditch	108,869	—	22	14	—	2	—	—	12	1	—	51	6·1	—	25	—	1	6	—	11	43	5·1	152	18·8
Bethnal Green	127,662	—	40	20	—	1	—	—	23	—	—	84	8·6	—	6	—	2	2	1	6	17	1·7	112	11·9
Stepney	273,265	—	120	63	—	2	—	4	36	—	3	298	14·2	—	23	—	9	6	—	13	51	2·4	277	13·8
Poplar	160,222	—	32	29	—	2	—	1	16	—	—	80	6·5	—	9	2	—	5	—	16	32	2·6	167	13·5
South Districts.																								
Southwark	186,941	—	113	18	—	1	—	2	27	—	1	162	11·3	—	6	—	2	3	—	13	24	1·7	210	14·7
Bermondsey	124,213	—	45	14	—	—	—	—	7	—	1	67	7·0	—	15	1	—	1	—	4	21	2·2	142	14·9
Lambeth	296,724	—	121	39	—	3	1	2	7	2	2	177	7·8	—	1	1	4	5	2	10	23	1·0	262	11·3
Battersea	167,338	—	72	24	—	2	—	1	6	—	—	105	8·2	—	2	1	4	1	1	7	16	1·2	124	9·8
Wandsworth	338,998	—	81	23	—	7	—	2	18	1	1	133	5·1	—	—	—	—	4	—	8	12	0·5	194	7·5
Camberwell	262,020	—	133	28	—	3	—	1	13	—	—	178	8·9	—	5	2	—	6	—	6	19	0·9	193	9·5
Deptford	109,182	—	66	10	—	—	—	—	18	—	—	94	11·2	—	7	—	—	1	—	6	14	1·7	97	11·5
Greenwich	96,037	—	48	8	—	1	—	—	8	—	—	65	8·8	—	7	3	2	—	1	2	15	2·0	75	10·0
Lewisham...	172,433	—	62	20	—	4	—	—	5	—	—	91	6·9	—	2	—	—	—	—	3	5	0·4	119	8·8
Woolwich...	122,836	—	39	19	—	—	—	—	2	—	—	60	6·4	—	4	—	—	2	1	2	9	1·0	105	11·4
Port of London	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

* Including membranous croup. † The death-rates are corrected for variations in sex- and age-constitution of the populations of the several boroughs, the population of England and Wales being taken as the standard.

average number in the corresponding period of the five preceding years; this disease was proportionally most fatal during July in Finsbury, Shoreditch, Stepney, Bermondsey, Deptford, and Greenwich. The 17 fatal cases of scarlet fever were slightly below the corrected average number, and included 3 in Greenwich and 2 each in St. Marylebone, Poplar, and Camberwell. The 37 deaths from diphtheria were 6 in excess of the corrected average number; the greatest proportional mortality from this disease was recorded in St. Marylebone, Bethnal Green, Stepney, and Battersea. The 70 fatal cases of whooping-cough were 11 above the corrected average number; the highest death-rates from this disease occurred in Paddington, Finsbury, Shoreditch, and Poplar. The 11 deaths from enteric fever were 3 in excess of the corrected average number, and included 2 each in the City of Westminster and in Lambeth. The mortality from diarrhœa and enteritis among children under 2 years of age was proportionally greatest in St. Pancras, Finsbury, Shoreditch, Bethnal Green, Poplar, Stepney, Southwark, and Deptford. In conclusion, it may be stated that the aggregate mortality in London during July from the principal infectious diseases, excluding diarrhœa, was 31 per cent. above the average.

ITALY.

(FROM OUR OWN CORRESPONDENT.)

The Treatment of Syphilis.

THE action of Herr Breuw against salvarsan has drawn from Professor Baccelli, the "grand old man" of Italian medicine, a letter of sympathy addressed to Professor Ehrlich. In it he draws attention to his own method of cure of syphilis by intravenous injections of bichloride of mercury, of which he prescribes 1 centigramme, with 75 milligrammes of sodium chloride in sterilised water, 2 to 10 grammes for each injection. The *Policlinico*, in which the letter above referred to was published, has for many years recorded from time to time wonderfully successful cases treated by this method, infections, such as puerperal fever and septicæmia.

Mediterranean Fever in Italy.

The Office of Hygiene of Florence recently circularised the medical men of the district to draw their attention to the prevalence of Mediterranean fever in Tuscany. The circular invites their coöperation in combating the disease by notification of any case coming under observation and by instruction given to the patients and their friends to prevent diffusion of the malady. For this purpose the circular advises that the rules laid down should be on the same lines as those observed in the isolation and care of cases of typhoid fever. Florence is the second commune in Italy to adopt voluntary notification of Mediterranean fever, the lead having been given by Palermo.

Carnegie Awards to Medical Men.

Among recent Carnegie awards in Italy is that of a gold medal and a sum of money to Mr. Pietro Foianini, director of the Hospital Visconti Venosta, of Grosio. Whilst performing tracheotomy upon a case of diphtheria in March, 1913, to save the patient from suffocation he aspirated the contents of the trachea into his own mouth, saving his patient's life, but contracting a severe attack of the disease himself. A similar award has been made to the widow of Dr. Giannone, captain in the naval medical service, killed on board the steamship *Berlin* while trying to disarm a mad emigrant.

August 24th.

Correspondence.

"Audi alteram partem."

THE MIDDLE-AGED MAN AND THE WAR.

To the Editor of THE LANCET.

SIR,—In the present crisis those who are middle-aged, although accustomed, perhaps, to regard themselves as in the "prime of life," have learnt to regret with sudden bitterness their lost youth. A man may have undergone no military training between 19 and 35, but still if he has that measure of youth on his side he is "wanted" by his country. And in many cases to respond to the call means no neglect of civilian responsibilities. The path of duty lies straight before these fortunate young men: subject only to the possession of sound physical health and an average physical strength they can be enrolled at once and their instruction in the art of soldiery can be begun. But if a man has reached the period of middle age that lies between 35 and 50 years, he may be physically sound, accustomed to an active life, and not lacking in courage, but his position is different, and the War Office does not intend to modify its practical appreciation of that difference.

A place in the fighting force now being raised by Lord Kitchener is not for the untrained middle-aged man, however vigorous, and I believe that this decision will find general favour in medical eyes, while it does not imply that such a man has no responsibilities towards the combatant forces of the army. In any case, owing to home responsibilities and other reasons, he might hesitate to offer himself for that particular branch of his country's service. What, then, is open to him, assuming that he is able to give his whole time, and to do so without leaving others dependent upon his country's gratitude or upon private charity? As to this last consideration, it can hardly be a man's duty even in the present crisis to burden others, and it should rather be for him, if he is not fit himself to join the army as a recruit in the ranks, or as an officer with some qualifications for the post, to help to bear the burdens of others more fortunate (as no doubt he will feel) than himself. He may wish to do more than this, and perhaps before long he will be able to see his way clearer than now to make use of what qualifications he may possess. The first need, however, of the country is men for the new army, and it is evident that the War Office will give no countenance to any kind of work or organisation which tends to distract attention from this point. The man who has any power that he can bring to bear should use it at once in order to assist the general recruiting, remembering that if he can lead only one or two men to the colours he is probably doing quite the best work that a man not likely to make a good soldier himself can perform. At present, and until the pinch of unemployment makes itself more bitterly felt, recruiting does not make the progress essential to success. It is, therefore, the pressing duty of all not themselves able to enter as recruits to secure the enlistment of others, finding what consolation they may in the accepted fact—accepted, I believe, in military circles all over the world, that the difference between 20 and 40 is felt sooner on the

battlefield than anywhere. The admirable statement of the case uttered by Lord Roberts in addressing the new 10th Battalion of the Royal Fusiliers on August 29th, reminding the athlete that it is no time for games, that hundreds of thousands of men are wanted, but that only a minimum number can be officers, requires to be more widely read and appreciated. At the same time information as to centres of service for warfare and home defence will be found in the newspapers, or may be sought by unlucky veterans, to whom the door has been closed, at the headquarters of such bodies as the Honourable Artillery Company, the Corps of Veterans (ex-service men), and the Inns of Court Veteran Corps.

I have not dwelt upon the need there is and will be for those who are qualified by medical training to undertake the charge of the wounded. But I may suggest that for men not required for military service, or fitted by any previous training for the direct care of the wounded, there may before long be work in hospitals. Not all will be needed as organisers, but there is work for willing and strong hands to do, if their owners will fill subordinate positions and perform useful tasks under the orders and organisation of others. Personal ambitions must be subordinated.

I am, Sir, yours faithfully,

August 31st, 1914. ACTIVE 54.

GUN DEAFNESS AND ITS PREVENTION.

To the Editor of THE LANCET.

SIR,—With reference to Dr. Jobson Horne's paper in THE LANCET of August 15th on Gun Deafness and its Prevention the following points may prove of interest. If it has been determined by experiment that a gunner's ear is not damaged at a distance D feet from a heavy fortress gun, it does not follow that he may approach a small field-piece much nearer without harm resulting. An actual example from an examination paper will help to make this clearer: "There is a probability that if a man stands at so short a distance as D from the muzzle of a gun which discharges a projectile of weight W, his sense of hearing will be hurt. If D is proportional to the sixth root of W, and if D is 10 feet for the discharge of a 64 lb. shot, what is D for the discharge of a 9 lb. shot?" Here $D = (W)^{1/6}k$, k being a constant quantity. From data the value of k is 5, whence D for the 9-pounder works out to just over 7 feet, as against 10 feet for the 64-pounder. *The simple law of proportion does not hold good.* Perhaps this explains why so many artillery men are deaf. They think that because their ear is not hurt at, say, 11 feet from a large gun they may come quite close to a small gun with impunity.

I am, Sir, yours faithfully,

Shadwell, E., August 29th, 1914. ATHOLE ROSS.

LYSOL MADE IN ENGLAND.

To the Editor of THE LANCET.

SIR,—We are enclosing copy of several letters received from members of the medical profession who labour under the erroneous impression that we are a German firm trading in England. On the contrary, our principal is a loyal English-born subject, who has lived all his life in this country. Furthermore, all our staff are British, and there is no financial or moral relationship between our firm and Germany.

Trusting that you may be disposed to publish these facts in the interests of fair play,

We are, Sir, yours faithfully,

For CHAS. ZIMMERMANN AND CO. (CHEMICALS), LTD.,
O. A. ELIAS, F.C.S.,
Departmental Manager.

St. Mary-at-Hill, London, E.C., August 31st, 1914.

PS.—Lysol is now manufactured entirely in England under the analytical supervision of Ernest J. Parry, B.Sc., F.I.C., F.C.S., and Arthur R. Ling, F.I.C.

*** The four communications enclosed by Mr. Elias traverse this letter, one of them raising the pertinent question as to whom any royalties on sales may go. The same question has arisen this week about another advertisement for the appearance of which THE LANCET is under contract. We shall make immediate inquiries, and if these inquiries are not satisfactorily answered the advertisement will be suppressed.—ED. L.

"ENCYCLOPÆDIA MEDICA."

To the Editor of THE LANCET.

SIR,—We are at a loss to understand Dr. Henry Jellett's letter in THE LANCET of August 22nd, and do not know what else we could have said. In the announcement of the new edition of the "Encyclopædia Medica" we enclosed, as Dr. Jellett quotes from the prospectus, "a list of contributors to the first edition, with the addition of the names of those who have so far agreed to contribute to the second." Why Dr. Jellett should take exception to this or should, as he says, find it hard to believe that his name was included in this list we cannot conjecture. Does he for one moment mean to dispute the fact that he was a contributor to the first edition?

The statement is perfectly clear. The list contains: (1) The names of hundreds of specialists who kindly contributed to the first edition and who have either been or are going to be asked to revise the subjects on which they wrote; and (2) in addition to these, the names of new contributors who have kindly agreed to write articles for the second edition.

We are anxious to make the work as perfect as possible, and accordingly many new subjects must be dealt with. If Dr. Jellett will kindly re-read the paragraph we have no doubt but that he will do us the justice of a public expression that he has been mistaken.—We are, Sirs, yours faithfully,

W. GREEN AND SON, Limited.
(C. E. GREEN, Managing Director.)

Edinburgh, August 29th, 1914.

WANTED, AN EXPLANATION.

To the Editor of THE LANCET.

SIR,—I had a case of midwifery last December I should wish to record, and hope I may get some enlightenment regarding it. Mrs. A sent for me to attend her on Dec. 11th. I found her pregnant and apparently labour beginning. I saw her twice that day and every day for two or three days. The last time I was called—at 2 A.M.—I found labour actively going on, the os was dilated, and all usual signs of labour were present. The pains were fairly regular and the os became fully dilated. After waiting some hours the pains got less active, and I administered one drachm ergot

liq. ext. One hour later I decided to administer chloroform and deliver. This was done. Everything appeared to be promising, and the child was a healthy, vigorous boy. I left about 6.30 A.M. Calling later in the day, I was surprised to learn that a change had come over the child; it was pinched and blue, and on examination the scrotum showed signs of venous effusion, being very cyanotic and swollen. The child was in a collapsed state and died a few hours later. The patient had a miscarriage the year previous to this confinement.

I can find very little in books to explain this case. My own surmise is that it may have been the action of ergot. I should be gratified for any information from readers of THE LANCET. The child was a most likely specimen at its birth; it cried and showed no defects or malformation of any kind.—I am, Sir, yours faithfully,

JAMES GILROY, M.B. Glasg.

Ecclefechan, August 20th, 1914.

HÆMORRHAGIC TYPHOID FEVER AND THE ADMINISTRATION OF QUININE.

To the Editor of THE LANCET.

SIR,—In regard to the valuable article on Hæmorrhagic Typhoid Fever, as seen in Calcutta, which Dr. Adrian Caddy and Dr. Barré Molony contributed to THE LANCET of July 18th, I would venture to draw their attention to a note that recently appeared in your columns on blackwater fever and its prevention by the use of the spectroscope,[1] which showed urobilinuria some 12 hours before the onset of hæmoglobinuria, and so gave warning to discontinue the administration of quinine. Dr. J. Mitford Atkinson recently mentioned that urobilin was present in the urine in all cases of malarial fever. Still it appears in far greater amount when blackwater fever is coming on during the administration of quinine; if quinine is still given the disease runs its full course; if quinine is stopped the patient has only a slight attack. Perhaps the obstinate hæmorrhage in Dr. Caddy and Dr. Molony's cases may have been connected with the quinine taken by all their patients. At any rate, it would be interesting and might shed some light on the cause of the hæmorrhage if they were to examine the urine of such cases for urobilin; it might be right to stop quinine when urobilin was present in quantity.

I am, Sir, yours faithfully,

August 29th, 1914. W. H., M.D.

FIBROSITIS AND STREPTOCOCCAL INFECTIONS.

To the Editor of THE LANCET.

SIR,—Within the past few years increasing interest has been taken by investigators and the public alike in the far-reaching effects on the general health of the action of certain circulating toxins in cases of dental sepsis. This is evident from the correspondence on oral sepsis which has lately been appearing in THE LANCET.

The public are already aware of the dangers of pyorrhœa, and medical men generally are becoming aware of the intimate relationship between purulent conditions of the teeth and gums and their sequelæ of chronic pharyngitis, pyorrhœa narium (ozæna), middle-ear disease, antral (both mastoid and Highmore's) sepsis, sphenoidal and ethmoidal sinusitis, gastric sepsis, gastric ulcer, and anæmia. Cultures taken in such cases constantly prove this close association, and amongst the organisms so isolated I have perhaps, beyond all the others, found staphylococcus citreus the active agent. Not once but many times recently I have found this organism about the fangs of teeth which, apparently sound, showed on extraction denuded periosteum and sepsis of the alveolar cavity communicating with pockets about the neck of the tooth.

It is not, however, to this particular class of dental cases that I wish to draw the attention of your readers, but rather to a series of cases of less evident virulence which ought to be the study of every practitioner—those cases where at and about the tips of the teeth, themselves frequently healthy in appearance, often stopped or crowned, the streptococcus salivarius is actively secreting a toxin which it pours in a steady stream into the highly vascularised area around the fangs. This organism does not cause pus formation. It is found in small fibrous sacs attached to the periodontal membrane, and its action seems to be formative rather than destructive. The effects of its growth are shown wherever connective or fibrous tissues are in a state of enhanced activity or where such structures have been injured or overstrained.

Streptococcal fibrositis shows itself in a great variety of situations and under many clinical disguises, and it is my experience that whether intestinal or dental in origin its appearance must always be associated with the presence of the streptococcus brevis in one of these foci. Both forms give a histological picture which is very much the same where sequelæ or complications do not mask the special characteristics. Thus one finds in intestinal streptococcal activity adhesions about the cæcum and sigmoid flexure determining an intestinal stasis which leads to far-reaching changes, chemical, bacteriological, histological, and anatomical, in the gut itself, until the condition of mixed intoxication results which leads to ptosis of organs on the one hand, from softening and stretching of the lymphoid tissues of their attachments, and, on the other hand, to depression, malaise, and headache in the earlier stages, and later to actual dementia of a melancholic or, alternatively, violent type. Such cases are often accepted as purely mental, but are easily recognisable with a bismuth meal and X ray examination. I consider that hæmatological and X ray examinations ought to be matter of routine in all mental hospitals, and my personal experience leads me to believe firmly that streptococcal fibrositis with intestinal stasis and its sequelæ plays a rôle apparently undreamt of by many of those in charge of such cases.

It is difficult to state at any time without resort to very practical methods of exclusion whether streptococcal activity is highest in the intestinal tract or dental region. Our ideas of rheumatism and gout are, in the light of recently acquired knowledge, undergoing considerable change, and the results of intestinal disinfection with salicylates on the one hand and the recognition of the danger of "dead" teeth on the other have brought into prominence the necessity for thinking pathologically wherever in the past we have been handicapped by a name. "Neurasthenia," "gout," "rheumatoid," "neuritis," these and a host of other terms which convey no pathological picture to the mind of the thoughtful physician should be relegated to a pre-scientific past. We shall advance

[1] THE LANCET, June 6th, 1914, p. 1657.

in treatment only as we insist upon an exact pathological terminology for etiological factors and pathological conditions. I am strongly of opinion that fibrositis, whether of the fine connective tissues of delicate structures or of the grosser fibrous tissues and membranes, is the expression of a chronic streptococcal toxæmia, and I could quote dozens of cases in illustration.

"Growing pains" occur in cases where the physiological output of young people is at its highest and always in association with streptococcal mischief of intestinal or dental origin.

"Rheumatism" along the scapular border is common on the side most energetically used in youth—viz., the right, as in old tennis players. "Tennis elbow" is a true fibrositis with frequently a streptococcal origin at the fangs of a dead tooth. I have cases which prove this.

Recently I have traced the streptococcal origin to dead teeth in such cases as the following, associated always with progressive general weakness up to chronic invalidism.

(*a*) Brachial neuritis: from numb and cold fingers and hands, "pins and needles," weakness of grip, up to vesicular or bullous eruptions on the digits; loss of power and even impaired coördination of movement as in writing or typewriting.

(*b*) Sciatica, cramps in the lower limbs, numbness in feet and toes, incoördination with staggering uncertain gait.

(*c*) Acute intercostal neuritis or "neuralgia" simulating and actually recorded as "pleurisy." Cervical neuralgia, facial and scalp neuritis, twitching of muscles and even of limbs indicating fibrous pressure within nerve trunks.

(*d*) Fibromata of skin and of nerves, especially at pressure points. One of these in a guard in railway service appeared at the point where the ulnar nerve was pressed upon in leaning out on the half door of his brake to note signals ahead; another in the case of a golfer with fibrositis of both palms and a commencing Dupuytren's contraction from, perhaps, strain in the overlapping grip.

(*e*) Fibromata of organs, with in the female sterility from fibrous cervix, or hæmorrhages or menorrhagia from fibrous body of the uterus.

These cases have been very instructive because simple and uncomplicated. Later pathological changes in joint involvements are, as in the intestinal tract, induced by sequelæ proper to the organ, its contents, or its flora, but the streptococcus brevis is the common primary toxic agent in all.

In the *Times* of July 14th there was an account of "Morse Key Paralysis, Telegraphists' Cramp," from which it appears that 4·4 per cent. of Government telegraphists suffer, and large sums of public money are paid in compensation yearly to such sufferers under the Workmen's Compensation Act. I cannot accept the view that this is due to a central lesion. It seems to me that here also is a chronic fibrositis of the connective tissues between the bundles of nerve cells in the overworked area, and, as in tennis elbow, writers' cramp, golfers' grip, and other similar conditions of special areas, the toxæmia has got in its work as it always does at the point of overstrain or injury or prolonged fatigue. I consider that these cases ought to be examined for intestinal stasis and for dental sepsis of the streptococcal variety before closing the investigation, and that if this prove to be the true etiology, as I think it will, it should be in the future routine to find and treat this condition of teeth or large intestine as soon as the first signs of numbness are reported.

I am, Sir, yours faithfully,

A. WHITE ROBERTSON, L.R.C.P. & S. Edin.

The New Laboratory, Margaret-street, W., August 6th, 1914.

THE PLEA FOR IMMEDIATE OPERATION IN APPENDICITIS.

To the Editor of THE LANCET.

SIR,—With reference to the recent correspondence in your columns under this title, as I happen to be one of the first surgeons who advocated immediate surgical intervention in appendicitis, I wish to ask your permission to quote a few sentences from my original paper, published in THE LANCET of Feb. 3rd, 1900, which may be of some interest at the present time.

I make bold to assert emphatically that these questions [*re* pathological condition of appendix] can only be answered by the introduction of the sense of sight and that clinical inferences are often miserable delusions in this disease. Imagine the feelings of an educated medical man on finding the patient whom he left at night with a flat abdomen and in good general condition on his arrival the next morning with a blown-out abdomen and all the symptoms of peritonism—no retreat but the grave. ..... I challenge anyone who has had any experience worth mentioning in appendicitis to deny the insidious rapidity with which a "simple" case may become converted into a fatal one.

Some may ask, Why operate in every case when a large percentage undergo spontaneous cure? My reply is: (1) I cannot say at onset of any case that spontaneous cure will take place; (2) I am unable to guarantee that perforation without previous formation of protective adhesions may not suddenly occur; (3) cœliotomy with removal of the appendix is the most accurate method of diagnosis and cure with which I am acquainted; and (4) an appendix once infected is always infected and remains a weak spot. ..... Many surgeons still advocate leaving behind the appendix when obscured by adhesions in the face of pus. ..... I make it a rule never to quit the abdomen when operating for appendicitis without removing the appendix, and on three occasions I discovered a second collection of pus when searching for the appendix which undoubtedly would have been otherwise overlooked. I have over and over again broken down intestinal adhesions and have never yet caused fresh infection, which I attribute to the fact that I strive to let the light into a pus collection and clean up before proceeding further. ..... Leaving a moribund appendix in a living abdomen is not sound surgery.

In a second paper published on this subject in THE LANCET of August 16th, 1902, I endeavoured to prove that many cases of appendicitis cannot be effectively dealt with without separation of adhesions. One constantly is coming across instances of interintestinal pus collections and a gangrenous appendix buried between adherent loops of gut. If one is not prepared to separate adhesions in such cases, it is obviously futile to open the abdomen at all. In order to put this matter in clear perspective it is well to bear in mind that "the position of the appendix varies, although as a rule it is seen to lie behind the end of ileum and its mesentery, and to point in the direction of the spleen. It frequently also lies behind the cæcum" (Treves's "Surgical Applied Anatomy"). My personal experience fully confirms this statement, and, moreover, convinces me that the surgeon who says he can in the majority of cases before operation localise the appendix and anticipate by the presence or absence of symptoms the exact pathological condition, is a very superior person or a fool.

I cannot understand why adhesions in appendicitis should create such anti-operative panic. Time after time one sees in print that one of the principal reasons why cases of appendicitis should be left to rot is the danger of disturbing adhesions. In my opinion such reasoning is absolutely devoid of scientific or practical foundation. Of course, I assume that all surgeons know how to expose the infected area and allow themselves to be assisted by their eyesight.

Adhesions are Nature's temporary effort to limit the attack, and their function in a great measure ceases on the arrival of the surgeon. Nothing to my mind is more culpable than to ignore the fact that if the exciting cause is not removed these same adhesions become so dense and organised as not only to constitute a most serious operative complication but frequently a condition of things in the abdomen which are a post-operative nuisance if not an actual danger to the life of the individual. This is no supposition—I have had very bitter experience of it.

It is almost unnecessary to invite attention to a very common experience—the case brought into hospital a week to ten days after onset of gangrenous suppurating appendicitis. We open the abdomen; probably no pus flows into the wound; we inspect and find the right lower abdomen occupied by a conglomerate consisting of a thickened, infected, attenuated cæcum densely adherent to an equally rotten loop, or loops, of ileum. We proceed to separate as soon as we can make head or tail of the anatomy of the part, which is usually shrouded by a superficial layer of pyogenic membrane; the walls of involved intestine crumble even with the most gentle digital stroking. At last we strike a small foul-smelling abscess surrounding a perforated gangrenous appendix. These removed, we proceed to repair unavoidable intestinal lacerations; of course, each suture promptly cuts through—it cannot have any grip in such infected stuff—drainage-tubes are freely inserted, the parietal wound is left open, and within a week it is 10 to 1 that we see one or more gaping intestinal chasms—confusion worse confounded—enterectomy in a debilitated, poisoned, half-starved convalescent. I confess I have no words sufficient to express my utter contempt for the teaching which is responsible for such tragedies.

The farce of the whole thing is at once obvious, when one considers that there is not a surgeon worthy of the name who advocates the expectant adhesion policy in cases of acute pancreatitis, acute cholecystitis, or acute suppurative salpingitis, much less preach retreat for fear of disturbing adhesions in cases of gangrenous gall-bags or gonorrhœal pus-tubes. To my mind, the greater the density of the adhesion the stronger is the evidence that operative assistance has been too long deferred and the greater is the necessity for pushing home the attack. I think it may be taken as a rule that the density and number of adhesions are in direct ratio to the intensity of the primary infection. Also it is well to remember that in the worst form (fulminating) of appendicitis adhesions are conspicuous by their absence, due to the fact that the streptococcus is the predominant partner in the attack and presenting the usual characteristics of strepticæmia—profound poisoning, no pus, probably some turbid serum, and no plasticity.

Most of the above was written on the experience of 140 consecutive cases, and I wish to state that an additional experience of 1000 cases not only confirms the above opinions but absolutely convinces me that the postponement of surgical intervention in appendicitis until adhesion formation runs amok, the patient becomes saturated with deadly toxins, the lymphatics, veins, and liver become stuffed with bacterial thrombi, and walls of adjacent intestines become putrid with infective infiltration, is something more than a craze—it is homicide.

I am, Sir, yours faithfully,

JOHN O'CONOR, M.A., M.D., B.Ch. T.C.D.,
Senior Medical Officer, British Hospital,
Buenos Aires.

A SWISS FIRM.

To the Editor of THE LANCET.

SIR,—An impression appears to prevail in some quarters that we are a German house, and as such are no longer able to supply Roche Products. Both impressions are quite erroneous, the first, no doubt, being due to the fact that we have laboratories and works in Grenzach (Baden). Our head offices and laboratories are, however, at Basle (Switzerland), where we have been established for many years.

With regard to the second point, we are taking steps to announce the fact that we have large reserve stocks, and not only anticipate no difficulty in filling orders, but furthermore, do not propose to increase the prices.

We are, Sir, yours faithfully,

THE HOFFMANN-LA ROCHE CHEMICAL WORKS, LTD.

Idol-lane, E.C., Sept. 2nd, 1914.

ROYAL EARLSWOOD INSTITUTION, REDHILL.—Sir James Crichton-Browne, Lord Chancellor's Visitor in Lunacy, has forwarded to the Royal Earlswood Institution a letter of appreciation in which he says: "Earlswood is eminently deserving of generous aid. It is, I know, under wise scientific guidance, and should lead the way in that campaign against mental defect which is now being vigorously undertaken," pointing out that it has always been, in all senses, the premier institution in this country for the care and education of the weak-minded.

CRYSTAL PALACE AS A HOSPITAL.—With reference to the paragraph which we recently published announcing that the Crystal Palace had been offered to the War Office as a temporary hospital by Sir David Burnett on behalf of the trustees, we are informed that a reply has been received from the authorities stating that they are greatly obliged by the generous offer, but have at present sufficient hospital accommodation in the south-eastern district. The trustees of the Crystal Palace are requested, however, to allow the offer to remain open.

DONATIONS AND BEQUESTS.—By the will of the late Mr. William P. Brown, of Gloucester, solicitor, the testator left £500 to the Royal Infirmary, Gloucester.—Under the will of Colonel Oliver Ormerod Walker, V.D., of Bury, Lancashire, late of the 1st V.B. Lancashire Fusiliers, and late Conservative Member of Parliament for Salford and Mayor of Bury, the Bury Infirmary will receive £500 and the Bury branch of the Queen Victoria Jubilee Nurses' Institute a like amount.—Mr. Charles Bannerman, of Dundee, has left bequests to Dundee charities, including £1050 to the Dundee Royal Infirmary to endow a "Bannerman bed."—Mrs. Margaret Drysdale, of Glasgow, has bequeathed practically the whole of her estate of £20,000 to Glasgow charities and hospitals.—The late Mrs. Agnes Wise Whyte (or Smith), of Glasgow, has left the following legacies: Royal Infirmary, Glasgow, £500, and also £1250 to endow a bed in memory of the late William Whyte; Western Infirmary and Victoria Infirmary, Glasgow, £500 each; Glasgow Royal Hospital for Sick Children, Glasgow Samaritan Hospital, and Glasgow Asylum for the Blind, £200 each; Eye Infirmary, Glasgow, £100; and Glasgow Cancer Hospital, £50.—Mr. James France, of Hale, Cheshire, has left to Henshaws Blind Asylum, Old Trafford, Manchester, £100, and the same amount to the Deaf and Dumb Institute, Old Trafford.—Mr. Joseph Letiere Petit, steel pen manufacturer, chairman of Messrs. Charles Brandauer and Co., Limited (who left estate valued at £192,641 gross), bequeathed £100 to the Birmingham General Hospital, £100 to the Children's Hospital, £50 to the Eye Hospital, £50 to the Orthopædic and Spinal Hospital, and £50 to the Lying-in Charity, all of Birmingham.—The late Admiral Sir Charles Carter Drury, R.N. (retired), G.C.B., G.C.V.O., K.C.S.I., has left by will on the death of his mother, payable out of the securities with Macklin and Co., Frankfort-on-Main, Germany, £1050 to endow a "Frances Ellen Drury bed" at Middlesex Hospital and £1000 to the Cancer Hospital, Brompton.

THE WAR.

CASUALTIES TO OFFICERS OF THE ROYAL ARMY MEDICAL CORPS.

THE War Office issued on the evening of Sept. 2nd a report, received from General Headquarters of the Expeditionary Force, dealing with British losses so far as they could be ascertained. The list includes among the wounded the name of one officer of the Royal Army Medical Corps, Captain T. H. Gibbon, while the following officers of the corps are reported as missing:—Lieutenant A. J. Brown, Captain R. J. Cahill, Major P. H. Collingwood, Captain W. Egan, Lieutenant S. M. Hattersley, Lieutenant H. W. Hills, Major F. S. Irvine, Lieutenant C. L. Lander, Captain J. P. Lynch, Captain H. E. Priestley, Lieutenant L. M. Routh, Captain A. A. Sutcliff, and Colonel H. N. Thompson, D.S.O. The course of the operations over so extended a field accounts for the large proportion of missing officers and men out of a total casualty list of 5000, and there is good reason to hope that many of those who are as yet unaccounted for will later be reported as having come in. Captain Gibbon, the only officer as yet reported wounded, won the first prize in pathology and the De Chaumont prize in hygiene at the Royal Army Medical College in 1905.

THE RETURN OF THE WOUNDED.

From day to day news has been received of the arrival of wounded British soldiers from the front. Early this week consignments reached England and were safely despatched to the Royal Herbert Hospital at Woolwich, the Cambridge Hospital at Bishop Stortford, the Plymouth base hospital, the 5th Southern General Hospital at Portsmouth, and the London Hospital. Other batches have been received at the Military General Hospitals at Brighton and Birmingham. The sick and wounded have so far been landed at Southampton, the more serious cases being transferred at once to Netley. With a situation changing almost daily it is clearly impossible to give any detailed account of the arrival, disposition, and condition of the whole body of invalided soldiers who have returned this week; but one or two instances may serve to give an idea of the kind and extent of the treatment now being given at an increasing number of medical centres.

At the London Hospital 316 disabled soldiers were received on Sunday and Monday last. Their transference from Waterloo Station to hospital was looked after by members of the staff and students. Nearly all the cases are surgical, and the majority of the injuries are comparatively trivial. Perforated wounds of the limbs and in the neighbourhood of the head predominate, and most of the bullets seem to have passed through leaving inconsiderable effects beyond slight local sepsis in a certain number of cases. Old students of the London Hospital will be interested to learn that the wards in which the soldiers are being treated are Yarrow, Rachel, Currie, Cambridge, Richmond, Cotton, Crossman, Gurney, and Charrington. A large number of the men have already recovered sufficiently to be discharged to convalescent homes, but every case of injury by rifle bullet or shrapnel is undergoing a routine X ray examination. The soldiers as a whole seem well and in good spirits, and their appreciation of hospital care is obvious. Only a small number are confined to bed.

The first batch of wounded and sick soldiers from the front, numbering 121, arrived in Portsmouth on Tuesday morning, Sept. 1st. They were brought from France in hospital transports, reaching Southampton on the previous night, and were entrained for Portsmouth in a specially equipped hospital train. On arrival they were conveyed in motor ambulances and private motor cars to the 5th Southern General Hospital, established in a municipal school. There are 16 "cot" cases and many cases of rheumatic fever, indicating that the soldiers have suffered from camping on damp and marshy ground. All the wounded are from the battle of Mons, where the British forces played so gallant a part but suffered so severely. It is stated by them that the Germans fired on the field hospital and on the Red Cross bearers when carrying the wounded from the field of battle. A trainload of wounded and sick—3 officers and 121 men—arrived at Cosham on August 31st, and were conveyed to the Alexandra Military Hospital.

THE FRENCH PROVISION FOR SICK AND WOUNDED.

The following notes from one of our Paris correspondents show well the anxious preparations made by the French for the proper care of their sick and wounded in the war.

Paris, August 31st.

The secrecy observed as to military operations is applied to the doings of the medical staff. It is not even known in their own hospitals in which direction they have been sent, and no information is given as to when the wards prepared may be required. During the trying period of suspense a stupendous amount of organised preparation has been carried out. Not only has the vast machinery of the three French branches of the Red Cross Society been set in motion, but they have each doubled or trebled their usual capacity, while an incredible number of private offers have been made for the equipment of auxiliary hospitals and ambulances. Of course, it is hoped that much of this will remain unutilised; but the nation is aware that it is engaged in the most tremendous struggle in the history of the world in point of numbers, and France is calmly determined that no sudden emergency shall find her unprepared.

The Croix Rouge in France consists of three societies, of which the oldest, the Société Française de Sécours aux Blessés Militaires, celebrates its fiftieth anniversary this year. This society now possesses 375 territorial hospitals, 78 station infirmaries, 110 frontier posts, 70 dispensary schools, 10,000 nurses, and 3300 stretcher bearers.

Since war was declared 207 auxiliary hospitals have been organised, with a total of 1700 beds.

The subscription list opened by this society on August 10th has already gained 187,000 francs. Bands of trained nurses have been sent, among other places, to Rheims, Valenciennes, Amiens, Montdidier, Neufchâtel-sur-Aisne, Châlons, Belfort, Pont-à-Mousson, Fresnes-sur-Orne, and Sigmy l'Abbaye.

Sixty parties of trained nurses were sent to different points on the frontier, but the rapidity with which events have moved has prevented some of these from reaching their destination. Two waggon loads of medical stores have been dispatched to Brussels, and a band of ten nurses left on the 9th for Belgium at the request of the Comtesse de Merode, president of the Belgian Croix Rouge. Though the society only employs the nurses who have gained their diploma after a regular training course of some months, it has arranged three courses of elementary instructions to respond to the great demand among the women who wish to take their share of caring for their wounded. Besides the actual medical work the Société de Secours aux Blessés Militaires has organised several charitable depôts to help the distressed families who are left without their breadwinner.

The report just issued by the Union des Femmes de France shows that their 204 auxiliary hospitals are fully equipped to receive more than 13,000 sick or wounded soldiers. The nursing will be done by a staff of 10,000, aided by more than 2600 directresses. Flying columns composed of an infirmière major and five nurses are being mobilised in a few hours and despatched to their posts. Forty-three of these have been sent out since the beginning of hostilities.

No less important service has been rendered by the Association des Dames Françaises, which had 105 auxiliary hospitals ready by August 6th, each containing from 20 to 300 beds. All three societies have organised special ambulance classes, and they are now occupied in the inspection and organisation of the private houses, halls, &c., which have been placed at their disposal. No offer is accepted below the minimum number of 20 beds, and funds for their complete equipment must be guaranteed for at least three months.

The offers of help have been too numerous to mention in detail. Among the buildings offered to the Red Cross for the purpose are the Casino at Enghien, the hospital of Dr. Henri de Rothschild in the Rue Marcadet, the Comédie Française, where 50 beds have been established under the direction of Dr. Paul Mounet and the operations will take place in the artists' foyer, the actresses' home at Pont-aux-Dames, where 60 beds have been installed, and the nursing home of Dr. Bonnet in the old hotel of Prince Borghèse in the Rue de la Chaise. The last building is a valuable acquisition, as the home contains 200 beds, three operating rooms, a radiography installation, and a staff of 60 nurses under the direction of Madame Gaston Thomas. The surgeon-in-chief here is Dr. Jean Louis Faure. Madame Messimy, wife of the Minister for War, has organised an ambulance in the Lycée Henri Quatre and another in the École Polytechnique under the medical supervision of Professor Chantemesse and Dr. Cazin.

Many of the big shops are offering one or two floors with a complete ambulance installation. The Université of Les Annales is now transformed into a hospital with workrooms where the poor are engaged in paid work for the soldiers. The hospital Janson de Sailly has been arranged to receive 350 wounded under the direction of Dr. Le Fur. Many of the now empty schools and lycées have also been utilised, and among the specially welcome offers have been many châteaux placed by their owners at the disposition of the Croix Rouge for the use of convalescents. The English colony, under the presidency of Lady Granville, is meeting every day to do Red Cross work at the Embassy church rectory, and an offer has been made to the French Government for the establishment of a Canadian ambulance in Paris with a complete equipment of 50 beds. Besides the elaborate organisation for the reception of the wounded, great care is being taken to relieve distress among the families of soldiers who have gone to the front. A huge network of charities working under the direction of the three Red Cross societies in coöperation with the Assistance Publique has sprung into existence with that deft swiftness which characterises French action in a great emergency.

A central office for the "Assistance Maternelle et Infantile" has been created since war was declared and is doing a great work, while there are numberless societies for distributing food and clothing, for organising work, and caring for children.

On Monday afternoon our correspondent left Paris, reporting that the city was perfectly calm and orderly, but that the population was much tried by the paucity of news to which the Government would give its formal support. The news supplied by the many refugees, and by soldiers returning from the front wounded, had got into circulation, and was naturally depressing in its effect, and it was generally felt in Paris that the situation might have been more explicitly revealed from day to day. Foreigners were all leaving the city by the end of last week, and those remaining were quietly preparing to endure a siege.

NORTHERN MILITARY GENERAL HOSPITALS.

We published last week the personnel of the *à la suite* staffs of the London Military General Hospitals, with a few details of their organisation, as we had already done in respect of other of these institutions. The object in so doing was to show that the best surgical and medical aid possible will be at the disposal of the forces, Territorial or Regular. We give similar information this week concerning the Northern General Hospitals.

First Northern General Hospital.—During time of peace the office of this hospital is situated at the Drill Hall, Hutton-terrace, Newcastle-on-Tyne. Some time ago the Royal Infirmary authorities agreed to place 200 beds at the disposal of the military. Within 24 hours from the outbreak of war the beds were provided and on August 6th the first military patient was admitted to the infirmary. The First Northern General Hospital is situated in Armstrong College. The laboratories and lecture rooms have been converted into adequate wards. The unit was mobilised on August 5th and on August 8th patients were being admitted to the Armstrong College Hospital. They have since come in increasing numbers, and by Sept. 1st 546 sick in all had been admitted, 316 patients being then in residence. A large number of cases also not requiring admission are seen daily at the receiving room. The unit consists of 520 beds, the personnel of 21 officers, 43 non-commissioned officers and men, 91 nurses, and 38 civilian subordinates. Practically the whole of the staff of the Royal Infirmary are on the staff of the First Northern General Hospital. To Major T. Gowans, the officer commanding, and to his staff the greatest possible credit is due for the speed of mobilisation and for the very efficient work being carried out. The operating theatre is in constant requisition, but all the more serious cases are taken to the infirmary, where 50 beds are still reserved for military cases. Practically the whole of the staff of the First Northern General Hospital—officers, men, and nurses—have volunteered for service abroad as a unit, while many have volunteered for individual service if called upon. On mobilisation the following physicians and surgeons form the staff:—Lieutenant-Colonels: Dr. A. M. Martin, Mr. H. B. Angus, Dr. T. Beattie, and Dr. W. E. Hume. Majors: Mr. W. G. Richardson, Dr. R. A. Bolam, Dr. W. D. Arnison, Mr. J. W. Leech, Mr. G. G. Turner, and Mr. A. Parkin. Captains: Dr. G. Hall, Dr. T. M. Allison, Dr. D. W. Patterson, Dr. H. G. Slade, Dr. H. H. Markham, Dr. W. Seymour, Dr. F. G. Armstrong, and Dr. W. F. Wilson.

Second Northern General Hospital.—During time of peace the office of this hospital is situated at Harewood Barracks, Woodhouse-lane, Leeds. The hospital is situated at the Leeds Training College, the administrative block of which is now occupied by 480 beds, 20 of which are under canvas for the use of infectious cases. Three hostels are occupied by the personnel of 109 men and 120 nurses, the principal matron being Miss Innes, matron of the Leeds General Infirmary, and the matron, Miss Hills, who is matron of the Halifax Royal Infirmary (from which 40 nurses have been called up), and the officers, six of whom are in residence. A number of patients are now in hospital. The officer in command is Major J. F. Dobson. Major J. A. Coupland, Quartermaster Hon. Lieutenant C. H. Sedgwick and Chaplain the Rev. J. F. Phillips are attached. On mobilisation the following physicians and surgeons form the staff:—Lieutenant-Colonels: Dr. T. Churton, Mr. T. P. Teale, Dr. A. G. Barrs, and Mr. H. Littlewood. Majors: Dr. T. W. Griffith, Mr. R. L. Knaggs, Sir B. G. A. Moynihan, Dr. A. S. F. Grünbaum, Mr. H. S. Walker, Dr. W. H. M. Telling, Mr. W. Thompson, and Dr. G. W. Watson. Captains: Dr. A. L. Whitehead, Mr. T. R. Braithwaite, Dr. R. A. Veale, Mr. G. Constable Hayes, Dr. Wilfred Vining, Mr. S. W. Daw, Mr. E. W. Bain, and Dr. J. le Fleming Burrow.

Third Northern General Hospital.—During time of peace the office of this hospital is at Sheffield. The hospital is situated in the Women's Hostel in Collegiate-crescent, the Men's Training College, and the Men's Hostel in Clarkehouse-road, Sheffield. The officer in command is Lieutenant-Colonel A. M. Connell. Captain G. H. Pooley and Quartermaster Hon. Major D. Stout are attached. On mobilisation the following physicians and surgeons form the staff:—Lieutenant-Colonels: Dr. D. Burgess, Dr. W. S. Porter, and Dr. J. S. White. Majors: Dr. A. J. Hall, Dr. G. Wilkinson, Dr. A. E. Naish, Dr. A. R. Hallam, Dr. J. M. Beattie, and Dr. S. Riseley. Captains: Dr. W. H. Nutt, Mr. G. S. Simpson, Dr. A. G. Wilson, Dr. A. E. Barnes, Mr. H. J. E. H. Williams, and Dr. W. J. N. Vincent.

Fourth Northern General Hospital.—During time of peace the office of this hospital is at 6B, Guildhall-street, Lincoln. The hospital is situated at the Lincoln Public School, standing in large playing fields on the outskirts of the town. The carpenter's shop has made an excellent operating theatre, with a sterilising room attached supplied with steam from a high-pressure boiler. A dark room adjoining is now

used by the radiographer, and there is an ample store for surgical material. The school laboratory makes an excellent dispensary and pathological laboratory, while the studies and masters' rooms on the ground floor afford admirable offices for administrative staff and clerks. The large gymnasium has been fitted up as a quartermaster's store, containing everything requisite for a hospital of 520 beds, while other rooms on the ground floor serve for various stores, medical officer's room, and guard room. The class-rooms and dormitories form excellent wards, accommodating 86 beds. The remaining 434 beds have been provided in 20-bed iron huts lined with wood, of the pattern used in the South African campaign. They are heated with "Tortoise" stoves, and have at one end a ward orderly's room and sister's room, and at the other, but separate from the ward, sanitary annexes. Water has been laid on to all these huts. A bucket conservancy system is at present in use, but the annexes have been so designed that a water carriage system of sewage disposal could be adopted at very little extra cost. A Washington-Lyons disinfector has been installed, worked by a high-pressure boiler, which also supplies steam for a steam cooker and boiler. The school kitchens, which are ample for 200 boys, are being augmented by gas and steam cookers. The 109 men of the unit are established in three huts adjoining the buildings. The sisters are lodged in the nurses' home of the Lincoln County Hospital, which has just been built as a memorial of King Edward VII., but has not yet been opened. The hospital was ready to receive patients within five days of the order to mobilise. The contractors who put up the huts had 500 men at work in three shifts, and the work was carried on all night by the help of arc lights. The officer in command is Lieutenant-Colonel W. H. B. Brook, and Major F. S. Lambert and Quartermaster Hon. Lieutenant J. E. Dickinson are attached. On mobilisation the following physicians and surgeons form the staff:—Lieutenant-Colonels: Mr. C. Erook, Dr. C. Harrison, Mr. G. H. Grimoldby, and Dr. G. S. Stephenson. Majors: Dr. W. A. Arline, Dr. E. M. Sympson, Dr. T. W. A. Daman, Dr. A. Westlake, Dr. D. J. G. Watkins, Dr. F. S. Genney, and Mr. E. C. Clements. Captains: Dr. O. H. Chapman, Dr. G. A. C. Shipman, Dr. B. McFarland, Dr. A. Burgess, Dr. A. A. Pratt, Mr. R. E. E. South, Dr. A. E. Wilson, Dr. A. Miller, Mr. O. Giles, Mr. J. E. S. Passmore, Mr. F. E. Withers, Mr. E. S. Winter, Dr. W. R. Higgins, Mr. G. L. H. Revill, Dr. F. Alcock, Dr. C. J. Coleman, Mr. G. J. R. Lowe, Dr. A. L. Yates, and Dr. J. J. Rainforth. The nursing staff consists of 91 fully trained sisters and nurses under Miss Bayldon as matron and Miss Sheppard as principal matron.

Fifth Northern General Hospital.—During time of peace the office of this hospital is at Leicester. According to the Army List the officer in command is Major L. K. Harrison, and Quartermaster Hon. Lieutenant G. E. Barfield is attached. On mobilisation the following physicians and surgeons form the staff:—Lieutenant-Colonels: Mr. G. C. Franklin, Dr. R. Pratt, and Mr. C. Douglas. Majors: Dr. R. Sevestre, Dr. T. V. Crosby, Dr. J. T. H. Davies, Mr. H. J. Blakesley, Mr. C. E. Marriott, Dr. J. S. Sloane, Dr. J. D. Slight, and Dr. R. Stewart. Captains: Dr. J. E. Waite, Mr. F. B. Carter, Mr. E. L. Lilley, Dr. R. R. Young, Dr. J. W. Patrick, Mr. E. V. Phillips, Mr. S. F. Smith, Mr. R. Michell, Dr. F. W. Bennett, Dr. R. W. W. Henry, Dr. W. E. Gibbons, Mr. R. R. Fagge, Mr. R. B. Stamford, Dr. W. M. Holmes, and Mr. W. I. Cumberlidge.

COÖPERATION BETWEEN CIVIL AND MILITARY SANITARY SERVICES.

As it is likely that during the next few months there will be occasions when the military forces will desire the assistance of the public health service in various parts of the country, the medical officer of the Local Government Board, after consultation with the War Office, is inviting medical officers of health of districts in which troops are or are likely to be stationed to place themselves in communication with the local military medical authorities, offering any services which may be useful. Communications dealing with matters of importance should be directed to the Deputy Director of Medical Services of the Command. As local medical officers of health they will be able to give valuable information and assistance to military sanitary officers in the following among other directions: (1) In advising as to all local water-supplies and as to their protection from contamination; (2) in helping to secure satisfactory disposal of garbage and other refuse; (3) in securing satisfactory drainage or conservancy arrangements; and (4) in the control of infectious disease, and in arranging for hospital provision for the ordinary infectious diseases, for convalescent cases of enteric fever, and for the carrying out of disinfection. It will be important for each medical officer of health to keep the medical officer in charge of any local troops informed of any cases of infectious disease within his area, and it is desirable to ask this officer to give him information similarly of cases of these diseases among the troops. The three diseases for which, under present circumstances, a constant outlook should be kept are typhus fever, enteric fever, and small-pox, especially the two last named. The War Office propose to arrange for each medical officer of health to have notified to him any soldiers convalescent from enteric fever coming into a sanitary area. The medical staff of the Local Government Board will be prepared to consult with medical officers of health on any points arising in connexion with this work, and a medical inspector will consult locally as to prospective arrangements when the need for this is indicated.

THE CHADWICK TRUST AND THE WAR.

The following resolution has been passed by the Chadwick trustees:—

That in view of the immense importance of encouraging in every way the promotion of careful sanitary organisation in the naval and military services during the present campaign, the Chadwick trustees have resolved, under the powers conferred upon them under the scheme they administer, to announce their intention to award at the close of this year the Chadwick gold medal and £50 each to the naval and military officer respectively in the British service who shall have distinguished himself most in promoting the health of the men in the navy and the army. The nomination for such presentations to be, as provided by the terms of the trust, by the Directors-General of the Naval and Military Medical Services respectively.

The Chadwick trustees are also making arrangements for providing, or assisting in the provision of lectures and demonstrations on naval, military, and hospital hygiene. Particulars of these lectures will shortly be announced.

EDINBURGH AND LEITH PRACTITIONERS.

The medical profession in Edinburgh and Leith had a meeting on August 28th and passed the following resolutions unanimously:—

That the medical practitioners of Edinburgh and Leith undertake to the best of their power to provide when required for the care of the patients of those of their professional brethren who have been called to the service of their country in this national crisis and also to safeguard in every possible way their professional interests, and will coöperate whenever possible with the Scottish Medical Emergency Committee constituted for these purposes.

That it is desirable that the medical profession in Edinburgh and Leith should systematically coöperate with the Soldiers and Sailors Families Association and with the local committees of the National Relief Fund with regard to the provision of medical attendance on persons rendered necessitous by the war.

The meeting was strongly of opinion that there should be medical representation on the central and ward committees of the National Relief Fund. A special medical emergency committee was

appointed. Twenty-eight medical men in Edinburgh and Leith have been called up for whole-time military or naval service, and there are many others engaged meantime in partial service at military hospitals and in Red Cross and ambulance organisation.

ORDER OF THE HOSPITAL OF ST. JOHN OF JERUSALEM IN ENGLAND.—It is officially notified by the War Office that the Ambulance Department of the Order of St. John of Jerusalem forms part of the Red Cross Organisation of Great Britain, equally with the British Red Cross Society and the St. Andrew's Ambulance Association, and is recognised by the British Government under Article 10 of the Geneva Convention as a society to assist the Medical Services in time of war. Funds are urgently needed by the Order, as already over 4000 men of the St. John Ambulance Brigade have been mobilised as hospital orderlies with the navy and army, several thousands more being held in reserve. Surgeons and a large number of fully certified hospital nurses have been despatched by the Ambulance Department to the seat of war at the request of the Belgian Red Cross Society. Contributions will be gratefully received by the chief secretary of the Ambulance Department of the Order, Colonel Sir Herbert Perrott.

THE British Red Cross Society is advertising in a very prominent manner in the daily press that the society is in urgent need of more funds if effective and immediate aid is to be given to the sick and wounded at the front. Contributions are requested to be sent to the secretary at Devonshire House, Piccadilly, London, W.

THE SCHOOL MEDICAL SERVICE DURING THE WAR.—The Board of Education understand that in a number of areas school medical officers and other officers engaged in the work of the school medical service will be giving their services to the navy or army, and that consequently difficulties may be experienced in carrying on the work of the school medical service. In a circular just issued the Board emphasises the importance that the work of the school medical service should be maintained throughout the country with the minimum of interruption or irregularity, and states that it relies upon local education authorities to do their best to make satisfactory arrangements for carrying it on. The Board will make every allowance for the difficulties with which local education authorities are confronted at the present time, and provided that in practice the existing work is carried on with reasonable efficiency the Board will accept, for the purposes of their own administration, the best arrangements which can be made, so long as the present emergency continues. The Board desire to be informed of each case in which officers of the school medical service are temporarily absent and of the arrangements proposed to be made for the discharge of their duties.

OFFICERS OF LOCAL AUTHORITIES AND THE WAR.—The Local Government Board suggest that local authorities may properly grant leave of absence to officers in their employ who are already in His Majesty's forces or who join them with their permission, and may properly make such allowances in respect of salary as they think reasonable in the particular circumstances, paying temporary substitutes for them under Naval or Military Order. The Treasury regulations and instructions of August 11th and 20th, 1914, dealing with the case of civil servants on naval or military service, provide for the payment to them or to their representatives during their absence from civil duty of their full civil pay less a deduction on account of navy or army pay and allowances. Already a certain number of whole-time medical officials are with the colours.

MANCHESTER MEDICAL ARRANGEMENTS.—Our Special Correspondent writes:—In addition to the elaborate and extensive provision of beds and other requisites for the wounded provided at the technical school at a very considerable outlay, the Royal Infirmary has arranged for placing at the disposition of the authorities a large number of beds. The Salford Royal Hospital has sent a communication to the Admiralty and to the War Office offering to provide beds for the reception of sick or wounded sailors or soldiers serving His Majesty who may be in need of hospital treatment. In the first instance 60 beds would be available, and this number could be increased to about 100 if need be. The offer has been accepted by the Admiralty and the War Office, with an intimation that the accommodation will be utilised if required. The Royal Infirmary has supplied directly from its own staff and from the list on its roster a large number of nurses to the naval and military authorities. In view of the opening of the winter session, which will take place on Oct. 8th, it is officially announced that arrangements have been made for the academic attendance of those students who have joined the Territorials. A reasonable allowance will be made as regards attendance in classes next session in the case of students undertaking military service. It is stated that a very considerable number of applications for commissions have been received for the Special Reserve and a much larger number for the Territorial Force. The quadrangle of the University presents a busy scene every forenoon, where a large number of recruits are being steadily drilled into shape. It is possible that special supplementary examinations may be held, but so far no official notice has been issued by the University authorities.

CANADIAN LOYALTY.—The women of Canada, through H.R.H. the Duchess of Connaught, have offered to build, equip, and maintain a naval hospital for the officers and men of the Royal Navy. This generous offer has been accepted by the Admiralty with deep gratitude. The new hospital will be supplementary to the Royal Naval Hospital at Haslar, and will be known as the Canadian Women's Hospital.

The Grand Trunk Railway's steamer *Prince George*, carrying 200 saloon and 300 steerage passengers, has been fitted out at Esquimalt, B.C., by the Royal Canadian Dockyard as a hospital ship, in charge of Dr. C. B. Wainwright, with whom is Dr. Stuart Tidey. Her preparation took only three days, and she went to sea on August 11th. She will have accommodation for 100 cases in cots, besides those that can be put in passengers' cabins. A lift has been fitted to take patients from the main deck to the operating room. There are six nurses from the Jubilee Hospital, Victoria, and two retired sick-berth stewards, R.N. The equipment of the ship is throughout of the highest class, and the patients will be made very comfortable.

THE WORKING OF VOLUNTARY AID DETACHMENTS.—A correspondent writes, in reference to a communication published in THE LANCET of August 22nd, p. 527, over the initials "V.A.D.": "I am afraid 'V.A.D.' has not made himself fully acquainted with the working of the voluntary aid detachments or he has forgotten that as soon as the Territorial Force is mobilised they pass at once under the care of the military authorities. This has now happened and neither the Red Cross authorities nor any outside body has control over them. All directions and orders will be issued to the voluntary aid detachments by the military authorities through the county directors. Under these circumstances there is no need to call into existence a fresh governing body, as the military authorities will keep them in hand and curb their unauthorised endeavours to form local hospitals where they never will be wanted and thus waste money."

THE DEARTH OF REVOLVERS AND THE WAR.—Since the war broke out attention has been called to a scarcity of revolvers such as are carried by military officers on active service, and protests have been made against a charge of more than double their normal price being made in some instances for these weapons. Various reasons have been advanced by manufacturers and others for this state of affairs, among whom Mr. W. W. Greener, of Birmingham, writing to the *Times*, ascribed the failure to maintain the supply of service revolvers primarily to the fact that Government orders for revolvers have all been given to one firm, but added the observation that in view of the "shrieking protests of the Press" in times of peace against the use of arms manufacturers naturally were afraid to make such weapons for stock. As protests (without shrieking) have frequently been published in THE LANCET against the unrestricted sale and carrying of cheap pistols, it is as well to point out that such observations as we have made have had no reference to weapons of the kind

carried by military and naval officers as part of their equipment. Criminals, lunatics, hooligans, and schoolboys from time to time inflict death or injury upon others with revolvers which can be bought at any price from a few shillings upwards, but do not employ those heavier and costlier weapons the price of which has now been raised to £10, or was so raised a short time ago. If Mr. Greener really intended to allude to objections raised by the newspaper press to the sale of revolvers as having tended to prevent gunmakers from laying in stocks sufficient to supply our officers in time of war, we think he would find it difficult to justify his assertion. It would seem fitting that the military authorities should take the risk in future of holding a stock of revolvers.

AN ALLIED FORCES BASE HOSPITAL.—A hospital of 200 beds is to be erected in France with the approval of the War Office. The Surgeon-Commandant in charge of the hospital is Major Ernest Miles, surgeon to the Cancer Hospital, and the medical and surgical staff consists of Mr. A. G. Whitehorne-Cole, Mr. Philip M. Heath, Mr. Norman Duggan, Mr. Sidney B. Radley, Mr. Oswald T. Dinnick, Dr. Douglas E. Derry, Mr. W. M. S. Robinson, Mr. Robert H. Liscombe, Dr. Bernard Hudson, and Dr. E. D. Roberts. A trained staff of dressers, sisters, nurses, orderlies, &c., have been engaged. The hospital is completely equipped and ready to start for any locality on the continent which the military authorities may deem advisable. Donations and monthly guarantees will be gratefully received and acknowledged by the committee, 16, Grosvenor-street, London, W.

THE WAR AND NATIONAL INSURANCE.—It is satisfactory to learn that the National Health Insurance Commission has announced that any notice with regard to arrears due to unemployment during the past year which Reservists, Territorials, or insured persons who have joined the regular forces may receive, does not apply to them now that they have been called up, and that they, or in their absence their relatives, should write the words "called up" across such notice and return it to the society, which will issue the special instructions applying to them at a later date. Recruits recently enlisted for the war should send their current Health Insurance cards to their Approved Societies (if any, otherwise to the Post Office) after writing the word "Enlisted" across them.

A second edition of Lieutenant-Colonel P. C. Gabbett's *Manual for Women's Voluntary Aid Detachments* (Bristol: John Wright and Sons, Limited. 1914. Pp. 115. Price 1*s.* net), the first edition of which was warmly commended in THE LANCET of Sept. 28th, 1912, p. 911, has been issued. The Women's Voluntary Aid Detachments were instituted to fill the gap in the Territorial R.A.M.C. occasioned by the absence of an establishment for carrying out the duties in connexion with clearing hospitals, stationary hospitals, ambulance trains, &c., which stand between the front and the base hospitals. First-aid and bandaging the members of these detachments are supposed to have become acquainted with. This little book aims to put them *au courant* with the conditions of transport under which those duties would be performed.

WAR MAPS.—Messrs. Edward Stanford, Limited, of Long Acre, London, W.C., have issued some more useful war maps of large size, as follows: No. 4. The Franco-German Frontier and Western Germany. No. 5. The North Sea and the Baltic, comprising the British Islands to the Gulf of Finland, including Paris and Vienna. No. 6. The Seat of War in Belgium, as far as Ostend and Dunkirk on the west, and Cologne and Coblenz on the east. No. 7 is the latest to be issued, and is entitled "The Seat of War in France." All these maps are very distinct and well prepared, and the boundaries are indicated in pale transparent colours.

RATIONS OF WAR PRISONERS.—The War Office has notified that war prisoners' daily rations will be: Bread, 1½ lb., or biscuits, 1 lb.; fresh or frozen meat, 8 oz., or preserved meat half ration; fresh vegetables, 8 oz.; butter or margarine, 1 oz.; condensed milk, 1/20th of 1 lb. tin; tea, ½ oz., or coffee, 1 oz.; sugar, 2 oz.; salt, ½ oz.

FREE DENTISTRY FOR SOLDIERS.—Men in military uniform can receive free dental treatment by qualified dental surgeons at University College Hospital. Recruits who have been refused on account of defective teeth can also be treated free on producing the necessary evidence. The dental department is in the National Dental Hospital, Great Portland-street, London, and applicants should be in attendance at 9.30 A.M.

The War Office announces a few vacancies in the Special Reserve of Officers of the Royal Army Medical Corps.

THE NATIONAL RELIEF FUND.

SUBSCRIBE to the Prince of Wales's National Relief Fund.

To H.R.H. THE PRINCE OF WALES,
BUCKINGHAM PALACE, LONDON.

I beg to enclose £ s. d. as a donation to the National Relief Fund.

Name _____

Address _____

_____

The envelope containing this coupon need not be stamped.

Medical News.

UNIVERSITY OF LONDON.—At the Second Examination for Medical Degrees, Part I., held in July, the following candidates were successful:—

Organic and Applied Chemistry.—Cecil Hewitt Atkinson, Guy's Hospital; *George Arthur Emmanuel Barnes, University College; Keith Carlyle Beatty, London Hospital; Edward Jocelyn Bilcliffe, King's College and St. George's Hospital; Alfred Octavius Bolton, St. Bartholomew's Hospital; John Walker Brash, St. Mary's Hospital; Israel Braun, St. Bartholomew's Hospital; Cyril Huleatt Brew, University College; Margaret Hastings Bridge, London (Royal Free Hospital) School of Medicine for Women; Donald Cameron, St. Bartholomew's Hospital; Hayward Carpenter, King's College and Charing Cross Hospital; James Edwin Carpenter, London Hospital; Bodh Raj Chaudhri, King's College; Henry Joseph Constantine Churchill, St. Bartholomew's Hospital; Douglas Crawford Clark, King's College; *Cecil Stedman Cloake, B.Sc., London Hospital; Hari Das, University College; Owen Griffith Davies, St. Paul's School; Arthur Henry Douthwaite, University College; *Robert Walter Laurence Edgington, University of Birmingham; William Eldinow, London Hospital; Valentine Francis Farr, St. Paul's School; Walter Alan Flynn, Guy's Hospital; Beatrice Ford, Brighton Municipal Technical College; Johan Coenraad Gie, Guy's Hospital; Lionel Charles Gomment, St. Bartholomew's Hospital; Dorothy Winifred Gowers, London (Royal Free Hospital) School of Medicine for Women; Algernon Sanders Green and Ronald Benjamin Green, University College; Walter Anley Hawes and Charles Graham Haynes, Guy's Hospital; Naunton Reginald Jenkins, University College, Cardiff; Theodora Johnston, London (Royal Free Hospital) School of Medicine for Women; Constance Amy Jones, University College; David Morris Jones, University College, Cardiff; Myrddin Emrys Jones, St. Thomas's Hospital; Nai Kamchorn, Guy's Hospital; Daulat Manghirmal Lala, King's College; Douglas Arthur Campbell Layman, William Alexander Low, and James Galway McCann, St. Thomas's Hospital; Lily Olive Grace McGregor, University College; Kathleen McCrie McKeown, London (Royal Free Hospital) School of Medicine for Women; Thomas Hawks McLeod, King's College; Bernard Gouldsmith Marshall, Guy's Hospital; Charles Leslie Mason, St. Mary's Hospital; George Gliddon Michell, University College; Annie Shortridge Mules, London (Royal Free Hospital) School of Medicine for Women; Henry Wilfrid Lee Nichols, London Hospital; David Richard Owen, University College, Aberystwyth; Arthur Edmund Beer Paul, University College; Sigrid Letitia Sharpe Pearson, Girton College; Montagu Cecil Polhill, University College; Jean Stephanie Pope, London (Royal Free Hospital) School of Medicine for Women; William Russell Ranson, Middlesex Hospital; Alexander Rathouse, Guy's Hospital; Francis Elinor Rendel, London (Royal Free Hospital) School of Medicine for Women; Gordon Hussey Roberts, King's College and Charing Cross Hospital; John Saunders Lewis Roberts, University College; Gwendolen Mary Rolfe, London (Royal Free Hospital) School of Medicine for Women; Henry Rowan, University College; William Harris Royal, University of Bristol; John Francis Ryan, St. Thomas's Hospital; Samuel Sacks, London Hospital; Edward

Jeffrey Samuel, King's College; George Samuel Sansom, B.Sc., University College; Cedric Kennedy Scales, King's College; Hans Schaal, University College; Charlotte Annie Shields, London (Royal Free Hospital) School of Medicine for Women; Raghunath Dadoba Shirvalkar, University College; Kildare Lawrence Singer, Middlesex Hospital; Muriel Starling, University College; Vernon Radcliffe Stewart, St. Mary's Hospital; Meredith Blake Robson Swann, Gonville and Caius College; Raymund Theron, London Hospital; Alfred James Usborne, St. Thomas's Hospital; Jeremias Auret Van Heerden, St. Bartholomew's Hospital; Kathleen Suzanne Vine, London (Royal Free Hospital) School of Medicine for Women; Elsie Maud Visick, Bedford College; Alfred C. Samuel Whiteway-Wilkinson, University College; Idwal Glynne Williams, University College, Bangor, and private study; and Ephraim Benjamin Woolf, London Hospital.

* With distinction.

N.B.—This list, published for the convenience of candidates, is issued subject to its approval by the Senate.

A GIFT of £20,000 to be devoted to cardiac research work has been promised to the London Hospital by Mrs. E. S. Paterson.

THE secretary in London of the University of Brussels, Dr. Arthur Haydon, states that he should be addressed at 11, Welbeck-street, Cavendish-square, London, W.

GUY'S HOSPITAL.—In accordance with the recommendation of the University of London, the Medical School of Guy's Hospital will open as usual on Oct. 1st, and no change will be made in the ordinary work of the school. The examinations for the entrance scholarships in arts and science will be conducted on Sept. 22nd, 23rd, and 24th as arranged.

LONDON SCHOOL OF TROPICAL MEDICINE.—The Duncan Medal awarded to the student who obtains the greatest aggregate of marks during the session has been gained by Captain A. C. Munro, I.M.S., in respect of the forty-sixth session, May—July, 1914. Captain Munro has also gained the Lalcaca medal in recognition of his having attained the greatest aggregate of marks during the medical year 1913-14.

ST. BARTHOLOMEW'S HOSPITAL MEDICAL SCHOOL.—The dean writes to say that the school will reopen on Oct. 1st, as already announced. The fact that the staff of St. Bartholomew's forms the 1st London (City of London) Base Hospital will in no way curtail their duties at St. Bartholomew's, nor the educational work of the school, and the new medical session will be carried on as usual with a full complement of teachers.

ST. GEORGE'S HOSPITAL MEDICAL SCHOOL.—The winter session will commence as usual on Oct. 1st, and the examination for the entrance scholarships in anatomy and physiology will be held on Sept. 22nd, 23rd, 24th, and 25th, but in view of the absence on duty with the navy and army of practically all the recipients of prizes in this school, it has been decided to postpone the prize distribution and the annual inaugural address, which was to have been delivered by the Master of Christ's College, Cambridge, on Oct. 1st. It has also been decided to postpone the annual dinner for past and present students, which was to have been held on the same evening, to some later date.

Parliamentary Intelligence.

NOTES ON CURRENT TOPICS.

Parliament and the War.

BOTH Houses of Parliament sat from August 25th to August 31st to deal with matters arising out of the war. They have adjourned again until Sept. 9th.

HOUSE OF COMMONS.

WEDNESDAY, AUGUST 26TH.

Vaccination in the Territorial Force.

REPLYING to Mr. CHANCELLOR, Mr. TENNANT (Under Secretary of State for War) said: A circular has been issued recently informing general officers commanding that members of the Territorial Force who have conscientious objections to vaccination should not be vaccinated. It is considered that the danger of an outbreak of small-pox among a body of insufficiently vaccinated troops is a very real one, and every effort is consequently being made to persuade men to undergo vaccination, and those who object are being informed that unless they submit to vaccination they are not likely to be of service in the field.

Dental Treatment for Recruits.

Mr. NORTON-GRIFFITHS asked the Under Secretary of State for War whether he was aware that a large number of men presenting themselves as recruits had failed to pass the medical examination on account of bad teeth, although fit in every other respect, and whether he could take some steps to arrange for these men to be looked at by a properly qualified dental surgeon, so that in cases where the defects were slight and could be easily remedied good men might not be precluded from joining the colours.—Mr. TENNANT replied: Instructions have already been issued to all medical examiners of recruits that no man who is organically sound is to be refused on account of bad teeth, unless his appearance leads the medical officer to believe that the loss of teeth is a distinct cause of the man's malnutrition. Many highly qualified dental surgeons and well-known dental institutes throughout the country are in communication with our recruiting officers and are patriotically giving their services for the free treatment of intending recruits whose acceptance for the army can be assured provided their dental defects are first remedied.

THURSDAY, AUGUST 27TH.

Asylum Officers with the Colours.

Mr. JOWETT asked the Secretary of State for the Home Department whether asylums officers who had been called to the colours since the present war would have their years of service as asylums officers before they were called up aggregated and reckoned with their future period of service in the same capacity if they returned to their duties after the war was over.—Mr. MCKENNA replied: The answer is in the affirmative.

Medical Officers in Territorial Units.

Mr. SANDERS asked the Under Secretary of State for War whether his attention had been called to the case of country doctors and veterinary surgeons who were called out with Territorial units and whose pay was 15*s.* 6*d.* a day, while they lost their private practice, whereas a civilian practitioner newly joined for war service got 24*s.* a day and £60 bounty at the end of the war; and whether he would take steps to remedy this inequality of treatment.—Mr. H. BAKER (on behalf of Mr. TENNANT) said in reply: All such officers commissioned in peace draw under the terms of their contract the pay and allowance of the Regular Army, varying according to the ranks which they hold. The rate quoted, 15*s.* 6*d.* a day, is that of a captain of the Royal Army Medical Corps, but field allowance of 3*s.* 6*d.* a day is also allowable, so that the total drawn is 19*s.*, and not 15*s.* 6*d.* It is necessary to give higher rates to those commissioned on emergency, but there is no intention of making this universal.

Mr. BRIDGEMAN: Is it not the case that the former class are getting less than the civilian practitioners newly joined?—Mr. BAKER: They are serving under a running contract under which they have engaged. It is always necessary when you take on specialists to deal with them on special terms in time of war.

Sanatorium Benefit.

Major HOPE asked the honourable Member for St. George's-in-the-East, as representing the Insurance Commissioners, whether an employed contributor who was recommended for sanatorium benefit and made his own arrangements to go to the King Edward VII. Sanatorium at Midhurst, was entitled to recover any part of the fees payable at that sanatorium.—Mr. WEDGWOOD BENN wrote in reply: Insurance Committees are under no obligation to defray the cost of treatment for tuberculosis obtained otherwise than under the general arrangements made by them. Further, where, as is usually the case, the whole of the committee's income available for the purpose is already ear-marked towards the cost of the accommodation reserved by them under those arrangements, the committee will not be in a position to contribute to the cost of other accommodation privately obtained. If, however, the honourable and gallant Member has any particular case in mind I will make inquiry on receipt of the particulars.

FRIDAY, AUGUST 28TH.

The Milk-Supply in Scotland.

Mr. PRATT asked the Secretary for Scotland what special steps were being taken to secure a sufficient supply of pure milk for infants and young children, especially in the urban and more populous districts of Scotland, during the continuance of the war.—Mr. MCKINNON WOOD answered: No complaints as to the shortage of milk-supply have reached me, but I will communicate my honourable friend's question to the Local Government Board for Scotland.

MONDAY, AUGUST 31ST.

Refugees and Disease.

Answering Sir E. CORNWALL, Mr. HERBERT SAMUEL said that although there was no reason to fear immediate danger of an epidemic occurring in this country in consequence of the arrival of refugees from the continent

the Local Government Board was fully alive to the need of taking precautions. As soon as it was found that a considerable number of refugees were arriving the Board sent a medical inspector to make a special examination of those arriving, and two days ago it sent a reminder to all local authorities of their duties in regard to the prevention of small-pox. The Local Government Board was exercising every vigilance to safeguard the health of the people.

BOOKS, ETC., RECEIVED.

ALLEN, GEORGE, AND UNWIN, LIMITED, London.
The Foundations of Strategy. By Captain H. M. Johnstone, R.E., retired. Price 5s. net.

ARNOLD, EDWARD, London.
The Brain in Health and Disease. By Joseph Shaw Bolton, M.D., D.Sc., F.R.C.P. Lond. Price 18s. net.

BUTTERWORTH AND CO. (India), LIMITED, Hastings-street, Calcutta.
Handbook of Obstetrics for Students and Junior Practitioners in India. By Kedarnath Das, M.D., Teacher of Midwifery, Campbell Medical School. Price 14s. net.

CHURCHILL, J. AND A., London.
Essays and Addresses. By the late James Campbell Brown, D.Sc., LL.D. With Portrait and 22 Illustrations. Price 5s.

GRIFFIN, CHARLES, AND CO., London.
A Surgical Handbook for the Use of Students, Practitioners, House Surgeons, and Dressers. By Francis M. Caird, M.B., F.R.C.S. Edin., and Charles W. Cathcart, M.B., F.R.C.S. Edin. & Eng. Sixteenth edition, revised and enlarged. Price 8s. 6d.
Dairy Chemistry: A Practical Handbook for Dairy Chemists and Others having Control of Dairies. By H. D. Richmond, F.I.C. Second edition, revised. Price 15s. net.

KELLY AND WALSH, Hong-Kong. MARSHALL BROTHERS, London.
Medical Missionary Language: Study As It Is and As It Ought To Be. By C. G. S. Baronsfeather, M.A., M.B., LL.B. Price 5s. net.

KIMPTON, HENRY, London.
Diseases of the Nose, Throat, and Ear, Medical and Surgical. By William Lincoln Ballenger, M.D., Professor of Otology, Rhinology, and Laryngology, College of Physicians and Surgeons, Department of Medicine, University of Illinois, Chicago. Fourth edition. Price 28s. net.

LEWIS, H. K., London.
Public Health Laboratory Work. By Henry R. Kenwood, M.B., F.R.S. Edin., D.P.H., F.C.S. Sixth edition. Price 10s. net.
Mechano-Therapeutics in General Practice. By G. de Swietochowski, M.D., M.R.C.S. Price 4s. net.
The Vaccination Question in the Light of Modern Experience by an Appeal for Reconsideration. By C. Killick Millard, M.D., D.Sc., Medical Officer of Health for Leicester. Price 6s. net.

MILFORD, HUMPHREY, London, Toronto, Melbourne, and Bombay.
Studies Concerning Glycosuria and Diabetes. By Frederick M. Allen, A.B., M.D. Price 38s. net.
The Care and Feeding of Children. By John Lovett Morse, M.D. Price 2s. 6d. net.

MURRAY, JOHN, London.
Nature and Nurture in Mental Development. By F. W. Mott, M.D., F.R.S., F.R.C.P., LL.D. Edin. Price 3s. 6d. net.

ST. ANDREWS AMBULANCE ASSOCIATION, 176, West Regent-street, Glasgow.
First Aid in Accidents and Sudden Illnesses. By Duncan Macartney, M.A., M.D. Price 1s.; post free 1s. 2d.

SANITARY PUBLISHING COMPANY, Chancery-lane, W.C.
Meat and Food Inspectors' Examinations: Model Answers and Questions. Compiled by G. T. Billing and A. H. Walker. Second edition. Price 5s. net.

SAUNDERS (W. B.) COMPANY, London.
Bedside Hæmatology. By Gordon H. Ward, M.D. Price 15s. net.
Serology of Nervous and Mental Diseases. By D. M. Kaplan, M.D., Neurological Institute, New York City. Price 15s. net.
Clinical Medicine. By Wm. Hanna Thomson, M.D., LL.D., formerly Professor of the Practice of Medicine, New York University Medical College. Price 21s. net.
Anoci-association. By Geo. W. Crile, M.D., Professor of Surgery, and Wm. E. Lower, M.D., Assistant Professor of Genito-Urinary Surgery, Western Reserve University. Price 13s. net.
General Bacteriology. By Edwin O. Jordan, Ph.D., Professor of Bacteriology in the University of Chicago. New (fourth) edition. Price 13s. net.
The Practice of Surgery. By Jas. G. Mumford, M.D., Lecturer on Surgery, Harvard Medical School. New (second) edition, with 682 Illustrations. Price 30s. net.

SHAW AND SONS, Fetter-lane, London.
Handbook of Fevers. By J. Campbell McClure, M.D. Glasg. Price not stated.

SMITH, ELDER, AND CO., London.
Saint Bartholomew's Hospital Reports. Vol. I., Part I. Edited by F. W. Andrews and others. Price not stated.

STANFORD, EDWARD, LIMITED, 12–14, Long Acre, W.C.
British Rainfall, 1913. Compiled under the direction of Hugh Robert Mill by R. C. Mossman and Carle Salter. Fifty-third annual volume. Price 10s.

THACKER, SPINK, AND CO., Calcutta and Simla.
Tropical Hygiene for Anglo-Indians. By the Hon. Surgeon-General Sir Pardey Lukis, K.C.S.I., and Major R. J. Blackham, C.I.E., R.A.M.C. Second edition, thoroughly revised and largely rewritten. Price not stated.

THE SCIENTIFIC PRESS, LIMITED, London.
Skin Diseases. By David Walsh, M.D. Edin. Price 1s. net.
The Tuberculosis Handbook. By A. H. G. Burton, M.D., D.P.H., &c., Medical Officer of Health for the Metropolitan Borough of Deptford. Price 7s. 6d. net.

WATTS AND CO., Johnson's Court, E.C.
The Family Chain: Marriage and Relationships of Native Australian Tribes. By J. Hopkins, F.R.C.S. Price 1s.

WRIGHT, JOHN, AND SONS, Bristol; SIMPKIN, MARSHALL, London.
Manual for Women's Voluntary Aid Detachments. By P. C. Gabbett, M.R.C.S., Lieut.-Col. I.M.S., retired. Second edition, revised and enlarged. Price 1s. net.

Appointments.

Successful applicants for vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, such information for gratuitous publication.*

BARNES, HELEN P., M.B., B.S. Lond., has been appointed House Surgeon and Senior Resident Officer to the Bristol Royal Hospital for Sick Children and Women.

BOND, C. SHAW, M.B., B.C., M.R.C.S., L.R.C.P. Lond., has been appointed Medical Officer and Public Vaccinator for the Bramshott (Hampshire) District.

BURROWS, ARTHUR, M.D. Lond., B.S., M.R.C.S., L.R.C.P. Lond., has been appointed Radiologist to the Manchester Infirmary.

CRAWFORD, ROBERT, M.B., Ch.B. Glasg., has been appointed a Medical Referee under the Workmen's Compensation Act, 1906, for the Sheriffdom of Fife and Kinross, to be attached more particularly to the Kirkcaldy District.

GOWLAND, WILLIAM PERCY, F.R.C.S. Eng., has been appointed to the Chair of Anatomy at the University of Otago, Dunedin, New Zealand.

LITTLE, H. N., B.C. Cantab., L.R.C.P. Lond., M.R.C.S., has been appointed Certifying Surgeon under the Factory and Workshop Acts for the Dunstable District of the county of Bedford.

MATHESON, J., M.B., C.M. Aberd., has been appointed Certifying Surgeon under the Factory and Workshop Acts for the Greenwich District of the county of London.

SALISBURY, WALTER, M.B., B.S. Lond., has been appointed Assistant Resident Medical Officer at the Queen Charlotte's Lying-in Hospital, Marylebone-road, N.W.

WALES, H., M.B., B.C. Cantab., has been appointed Certifying Surgeon under the Factory and Workshop Acts for the Gargrave District of the county of York.

WILLIAMSON, CECILIA F., F.R.C.S. Irel., has been appointed Assistant Bacteriologist to the East Suffolk Hospital, Ipswich.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

BANBURY, HORTON INFIRMARY.—House Surgeon. Salary £120 per annum, with board and residence.

BIRMINGHAM UNION.—DUDLEY-ROAD INFIRMARY: First Assistant Medical Officer, Second Assistant Medical Officer, and Fourth Assistant Medical Officer. Salaries at rate of £225, £180, and £160 per annum respectively. ERDINGTON INFIRMARY AND COTTAGE HOMES: Assistant Medical Officer. Salary at rate of £180 per annum. SELLY OAK INFIRMARY: Assistant Medical Officer. Salary at rate of £160 per annum. Apartments, rations, laundry, and attendance in each case.

BOOTLE COUNTY BOROUGH.—Medical Inspector of Scholars and Assistant Medical Officer of Health. Salary £300 per annum.

BRISTOL ROYAL HOSPITAL FOR SICK CHILDREN AND WOMEN.—Female House Physician. Salary £100 per annum, with board, rooms, attendance, and laundry.

BRISTOL ROYAL INFIRMARY.—Dental House Surgeon. Salary at rate of £100 per annum, with board, apartments, and laundry.

CAMBERWELL INFIRMARY.—Assistant Medical Officer. Salary £190 per annum, with apartments, board and washing.

CANCER HOSPITAL, Fulham-road, S.W.—Two House Surgeons for six months. Salary £100 per annum each.

CARLISLE, CUMBERLAND INFIRMARY.—Resident Medical Officer. Salary at rate of £80 for first six months and £100 for second six months, with board, lodging, and washing.

CHESHIRE EDUCATION COMMITTEE.—Fourth Assistant to the Chief School Medical Officer. Salary £350 per annum.

COLCHESTER, ESSEX COUNTY HOSPITAL.—House Surgeon. Salary £100 per annum, with board, residence, and washing.

DERBY, DERBYSHIRE HOSPITAL FOR SICK CHILDREN.—Female Resident Medical Officer. Salary £80 per annum.

DEVONPORT, ROYAL ALBERT HOSPITAL.—House Surgeon, unmarried. Salary £150 per annum, with board and laundry.

DOVER, ROYAL VICTORIA HOSPITAL.—House Surgeon, unmarried. Salary £100 per annum, with board, lodging, and washing.

DUMFRIES, CRICHTON ROYAL.—Locum Tenens for six months. Salary at rate of 5 guineas a week, with board, lodging, laundry, and attendance.

DUMFRIES AND GALLOWAY ROYAL INFIRMARY.—Assistant House Surgeon. Salary £65 per annum, with board and washing.

DURHAM COUNTY HOSPITAL.—House Surgeon. Salary £150 per annum, with board and lodging.

EASTBOURNE COUNTY BOROUGH—Female Assistant Medical Officer of Health and Assistant School Medical Officer. Salary £350 per annum.

EDINBURGH, ROYAL ASYLUM, Morningside.—Assistant Physician. Salary £175 per annum.

EXETER, ROYAL DEVON AND EXETER HOSPITAL.—Assistant House Surgeon for six months. Salary at rate of £200 per annum, with board, apartments, and washing.

GREAT YARMOUTH HOSPITAL.—House Surgeon, unmarried. Salary £140 per annum, with board, lodging, and washing.

GREENWICH UNION INFIRMARY AND WORKHOUSE.—First Assistant Medical Officer, unmarried. Salary £175 per annum, with apartments, rations, and washing.

GUILDFORD, ROYAL SURREY COUNTY HOSPITAL.—House Surgeon. Salary £100 per annum, with board, residence, and laundry.

HALIFAX ROYAL INFIRMARY.—Second and Third House Surgeons, both unmarried. Salaries £120 and £100 per annum respectively, with residence, board, and washing.

HAMPSTEAD GENERAL AND NORTH-WEST LONDON HOSPITAL.—Two Female Resident Casualty Officers for six months. Salary at rate of £50 per annum, with board, residence, and laundry.

HARRIS, PARISH OF, Outer Hebrides.—Two Medical Practitioners, one for North and one for South Harris. Salary £300 per annum &c., tax free.

HEREFORD, HEREFORDSHIRE GENERAL HOSPITAL.—House Surgeon, unmarried. Salary £150 per annum, with board, residence, and washing.

HULL ROYAL INFIRMARY.—Assistant House Surgeon. Salary at rate of £100 per annum, with board and lodging.

HULL, VICTORIA CHILDREN'S HOSPITAL, Park-street.—Female Resident House Surgeon. Salary £50 per annum, with board and laundry.

KENSINGTON BOARD OF GUARDIANS WORKHOUSE AND INFIRMARY.—Second Assistant Resident Medical Officer. Salary £160 per annum, with apartments, board, and washing.

KENT EDUCATION COMMITTEE.—Temporary School Medical Inspector. Salary at rate of £300 per annum.

KING EDWARD MEMORIAL HOSPITAL, Ealing, W.—Resident Medical Officer for six months. Salary at rate of £80 per annum, with board, residence, and laundry.

LAMBETH PARISH INFIRMARY WORKHOUSES, Brook-street, Kennington-road, S.E.—Sixth Assistant Medical Officer. Salary at rate of £150 per annum, with residential allowances.

LEICESTER ROYAL INFIRMARY.—Assistant House Surgeon for six months. Salary at rate of £100 per annum, with board, apartments, and washing.

LIVERPOOL ROYAL SOUTHERN HOSPITAL.—Two House Physicians and Three House Surgeons for six months. Salary at rate of £60 per annum, with board and residence.

LIVERPOOL UNIVERSITY FACULTY OF MEDICINE.—Johnston Chair of Bio-Chemistry. Salary £600 per annum.

MAIDSTONE, WEST KENT GENERAL HOSPITAL.—Assistant House Surgeon, unmarried. Salary £100 per annum, with board, lodging, &c.

MANCHESTER, HULME DISPENSARY, Dale-street, Stretford-road.—House Surgeon. Salary £180 per annum, with apartments, attendance, coal, and gas.

MANCHESTER NORTHERN HOSPITAL FOR WOMEN AND CHILDREN, Parkplace, Cheetham Hill-road.—House Surgeon. Salary £120 per annum, with apartments and board.

MANCHESTER ROYAL EYE HOSPITAL.—Junior House Surgeon. Salary £80 per annum, with residence, board, and washing.

MERSTHAM, SURREY COUNTY ASYLUM. Netherne.—Assistant Medical Officer, unmarried. Salary £150 per annum, with board, lodging, and laundry.

MIDDLESBROUGH, NORTH RIDING INFIRMARY.—Senior House Surgeon for six months. Salary at rate of £100 per annum, with board, apartments, and laundry.

MILE END OLD TOWN INFIRMARY.—Junior Assistant Medical Officer. Salary £140 per annum, with board, lodging, and washing.

NEW HOSPITAL FOR WOMEN, Euston-road, N.W.—Obstetric Assistant to end of year. Board, lodging, and laundry provided. Also Clinical Assistants to Out-patient Department. Also Anæsthetist.

NORTH RIDING OF YORKSHIRE COUNTY COUNCIL EDUCATION COMMITTEE.—Assistant School Medical Officer. Salary £250 per annum.

NOTTINGHAM CITY ASYLUM.—Junior Assistant Medical Officer, unmarried. Salary £200 per annum, with board, apartments, and laundry.

NOTTINGHAM GENERAL DISPENSARY.—Assistant Resident Surgeon, unmarried. Salary £180 per annum, with apartments (not board), attendance, light, and fuel.

NOTTINGHAM GENERAL HOSPITAL.—Senior House Physician. Salary £120 per annum, with board, residence, and laundry.

PETERBOROUGH INFIRMARY.—House Surgeon, unmarried. Salary at rate of £150 per annum, with residence, board, and laundry.

POPLAR HOSPITAL FOR ACCIDENTS, Poplar, E.—Senior Resident House Surgeon. Salary at rate of £150 per annum, with board and residence. Also Assistant House Surgeon for six months. Salary at rate of £80 per annum, with board and residence.

PORTSMOUTH CORPORATION MENTAL HOSPITAL.—Assistant Medical Officer, unmarried. Salary £250 per annum, with board, apartments, attendance, and washing.

PRESTON ROYAL INFIRMARY.—Resident Medical and Surgical Officer. Also Assistant Resident Medical and Surgical Officer. Salaries £150 and £120 per annum respectively, with board, residence, and laundry.

QUEEN CHARLOTTE'S LYING-IN HOSPITAL, Marylebone-road, N.W.—District Resident Medical Officer for four months. Salary at rate of £60 per annum, with board, residence, and washing. Also Assistant Resident Medical Officer for four months. Salary at rate of £50 per annum, with board, residence, and washing.

READING, ROYAL BERKSHIRE HOSPITAL.—Second House Surgeon. Salary at rate of £80 per annum, with lodging, board, and laundry.

ROTHERHAM HOSPITAL.—Assistant House Surgeon. Salary £110 per annum, with board, lodging, and washing.

ROYAL LONDON OPHTHALMIC HOSPITAL, City-road, E.C.—Senior House Surgeon. Salary at rate of £100 per annum, with board and residence.

ROYAL WATERLOO HOSPITAL FOR CHILDREN AND WOMEN, S.E.—Junior Resident Medical Officer. Salary at rate of £70 per annum, with board and washing.

ST. MARY, ISLINGTON, INFIRMARY, Highgate-hill, N.—Junior Assistant Medical Officer for six months. Salary at rate of £140 per annum, with board, apartments, and attendance.

ST. MARY'S HOSPITAL FOR WOMEN AND CHILDREN, Plaistow, E.—Assistant Resident Medical Officer. Salary at rate of £100 per annum, with board, residence, and laundry.

ST. PANCRAS.—Senior Assistant Medical Superintendent of South Infirmary, Cook's-terrace, Pancras-road, and Senior Assistant Medical Officer of the house adjacent. Salary at rate of £175 per annum, with board and apartments.

SALFORD ROYAL HOSPITAL.—Resident Surgical Officer. Salary at rate of £120 per annum. Also House Physician. Salary at rate of £110 per annum. Also House Surgeon, Junior House Surgeon, and Casualty House Surgeon. Salary each at rate of £100 per annum. All for six months, with board and residence.

SALFORD UNION INFIRMARY.—Resident Assistant Medical Officer, unmarried. Salary £150 per annum, with apartments, attendance, and rations.

SALISBURY (GENERAL) INFIRMARY.—House Surgeon, unmarried. Salary £100 per annum, with apartments, board, and lodging. Also Assistant House Surgeon. Salary £75 per annum.

SCARBOROUGH HOSPITAL AND DISPENSARY.—Senior and Junior House Surgeons. Salaries £100 and £80 per annum respectively, with board, residence, &c.

SHEFFIELD, EAST-END BRANCH OF THE CHILDREN'S HOSPITAL.—House Surgeon. Salary £120 per annum, with board and residence.

SHEFFIELD EDUCATION COMMITTEE.—Assistant School Medical Officer. Salary £300 per annum.

SHEFFIELD UNIVERSITY, DEPARTMENT OF PATHOLOGY.—Junior Demonstrator of Pathology. Salary £200 per annum.

SHERBURN HOSPITAL, near Durham.—Medical Officer. Salary £300 per annum and house.

SHREWSBURY, ROYAL SALOP INFIRMARY.—House Physician, unmarried. Salary at rate of £110 per annum, with board and apartments.

TRURO, ROYAL CORNWALL INFIRMARY.—House Surgeon, unmarried. Salary £100 per annum, with rooms, board, and washing.

WARRINGTON, LANCASHIRE COUNTY ASYLUM, Winwick.—Assistant Medical Officer, unmarried. Salary £250 per annum, with board, apartments, attendance, and washing.

WELSH HOSPITAL FOR THE EXPEDITIONARY FORCE.—Four Medical Officers and Four Medical Students as Dressers.

WEST BROMWICH AND DISTRICT HOSPITAL.—Assistant Resident House Surgeon and Anæsthetist, unmarried. Salary £100 per annum, with board, residence, and washing.

WEST HAM AND EASTERN GENERAL HOSPITAL, Stratford, E.—Resident Medical Officer. Salary £160 per annum. Also Senior House Physician and Senior House Surgeon. Salary £120 per annum. Also Junior House Physician and Junior House Surgeon. Salary £100 per annum. Board, residence, and washing provided in each case.

WEST LONDON HOSPITAL, Hammersmith-road, W.—Three House Physicians and Three House Surgeons for six months. Board, lodging, and laundry provided.

WOLVERHAMPTON AND STAFFORDSHIRE GENERAL HOSPITAL.—House Surgeon and Resident Medical Officer, both for six months. Salary at rate of £125 per annum, with board, rooms, and laundry.

WOMEN'S HOSPITAL FOR CHILDREN, 688, Harrow-road, W.—Dental Surgeon. Salary 25 guineas per annum.

WOOLWICH TUBERCULOSIS DISPENSARY, 185, Eglinton-road, Woolwich, S.E.—Temporary Assistant Medical Officer. Salary £25 per month.

THE Chief Inspector of Factories, Home Office, London, S.W., gives notice of vacancies for Certifying Surgeons under the Factory and Workshop Acts at Ballyshannon, in the county of Donegal; at Belleek, in the county of Fermanagh; at Sligo, in the county of Sligo; and at Ballyhaise, in the county of Cavan.

Births, Marriages, and Deaths.

BIRTHS.

BEATTY.—On August 27th, at Craigvar, Pitlochry, the wife of Samuel Beatty, M.B., C.M. Edin., of a son.

GRAHAM.—On August 27th, at Upper Wimpole-street, W., the wife of Cecil Graham, F.R.C.S., of a daughter.

RAINEY.—On August 29th, at Wakefield House, Compton-street, Eastbourne, the wife of E. Holmes Rainey, F.R.C.S., of a daughter.

WATERFIELD.—On August 27th, at Staithe House, Beccles, the wife of Noel E. Waterfield, F.R.C.S., Sudan Medical Service, of a son.

WILSON.—On August 28th, at Holland Park-avenue, W., the wife of J. Horne Wilson, M.D., of a son.

MARRIAGES.

HACKNEY—BYWATERS.—On August 26th, at the Marylebone Registry Office, Dr. Henry Charles Coutts Hackney, only son of Henry C. Hackney, Esq., of "Ridgwood," Beckenham, to Dorothy Kate, younger daughter of Arthur J. Bywaters, of Maida Vale, W.

HARRISON—HULKE.—On August 26th, at Harwich, very quietly owing to the war, Staff-Surgeon William Rhodes Harrison, Royal Navy, to Irene Medora, only daughter of Mr. and Mrs. Frederick B. Hulke, of Admiralty House, Deal.

DEATHS.

HAMILTON.—On August 28th, at his residence, Magherabuoy, Portrush, co. Antrim, Robert Hamilton, F.R.C.S. Eng., L.S.A. (retired), late of Liverpool, aged 87 years.

HICKS.—On August 30th, at Amhurst-road, N.E., George Borlase Hicks, L.R.C.P. Edin., M.R.C.S. Eng., L.M. (retired), in his 87th year.

HILL.—On August 24th, at his residence, St. Domingo, Hoylake, Cheshire, Charles Alexander Hill, M.B., B.C. Camb., D.P.H., of Rodney-street, Liverpool.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

HEALTH OF OFFICERS AND MEN.

INFORMATION that can be made known consistently with the public interest regarding the progress of operations, movements of troops, and matters of general interest is communicated in due course to the Press and to the News Agencies through the Official Press Bureau, at No. 40, Charing Cross. It will not be made known in any other manner. When any information is received as to the health or safety of an officer it is at once telegraphed from the War Office to his next-of-kin. It is also communicated to the press and the news agencies for publication. In the case of Territorial Force officers serving at home the notification will be made from the Territorial Force Record Office. Information received as to the health or safety of any soldier is communicated to the next-of-kin by the Military Record Office in which the man's history is kept, and is published in the press. All inquiries as to casualties, &c., should be addressed to the record offices concerned, and not to the War Office.

BRITISH HOSPITAL IN ANTWERP.

The Press Bureau has just announced that the British community in Antwerp has organised and equipped a hospital for the care of wounded soldiers of the allied armies. The hospital has been established in the new buildings of the Church of England Missions to Seamen and is under the control of, and officially recognised by, the Belgian Red Cross Society.

HEALTH OF CEYLON.

ACCORDING to the Ceylon Blue-book for 1913, just presented to Parliament, the estimated population on Dec. 31st last was 4,262,100, there being a proportion of 113 males to 100 females. The birth-rate for 1913 was 39 per 1000, which is slightly above the average, and the death-rate was 28 per 1000. The infantile mortality was 189 per 1000 births, which compares favourably with the 215 per 1000 in 1912. The chief causes of death were fever, diarrhœa, dysentery, pneumonia, and phthisis. Deaths from enteric fever showed a welcome decline—viz., 394, as against 461 in 1912 and 651 in 1911. The deaths from dysentery were 4190, as against 5237 in 1912; and from phthisis 4167, as against 4306 in 1912. Deaths from ankylostomiasis show an increase —2196, as against 1843 in 1912. This disease is especially prevalent amongst estate coolies in the low country, and is receiving the attention of the inspecting medical officers, who have visited a number of estates and have prescribed both prophylactic and curative treatment. Parangi has been treated successfully with salvarsan. In addition to the three hospitals and the clinic for tropical diseases in which the treatment was adopted previously, it has now been introduced in ten other hospitals and will shortly be extended to six others. There were 69 deaths from cholera during the year, due chiefly to an outbreak which occurred in Colombo in the last quarter and which resulted in 54 deaths. Only one death was registered from small-pox, as against 15 in 1912 and 89 in 1911. There are now 78 Government hospitals in the colony, besides 423 outdoor Government dispensaries and 321 estate dispensaries supported by the planters. The new anatomical block for the Medical College was opened by the Governor on Nov. 3rd, 1913. During the session 1913-14 336 students attended the college, of whom 134 were medical and 202 apothecary. The report as to the general condition of the colony is that "it is one of continued prosperity. The staple agricultural products—coconuts, paddy, tea, rubber, cocoa, and cinnamon—are flourishing. The standard of comfort has risen. The villager now requires a better house and better furniture. He is better clothed and fed. If the spread of civilisation has increased his facilities for making money, it has likewise increased his powers of spending it, and has, perhaps, occasionally diverted it into undesirable channels."

CUSTOM AND COURTESY.

To the Editor of THE LANCET.

SIR,—An insured patient of mine, who has been some time under treatment as she is waiting her turn for admission into St. Mary's Hospital for a major operation, came and informed me a few days ago that she had been visited and examined by a doctor sent to her by her society—the "Prudential"—on a few hours' notice to her and *none whatever to me.*

On remonstrating with the doctor concerned he made the frankest apology.

A simultaneous letter of protest to the "Prudential" has called forth this reply:—"We much regret that our action in regard to your patient should have been regarded by you as a breach of courtesy, but would mention that it was in accordance with *our customary practice* that the panel doctor was not advised of our course of procedure"!

I have made formal complaint of this "customary practice" to the London Insurance Committee, but I hope that, if they have not been doing so hitherto, other panel practitioners will equally resent this "customary" impertinence of the "Prudential" and get it put a stop to.

In this case the society stopped all sick pay before sending the doctor, and the poor girl, who is dependent upon it, had not had a penny for a fortnight, just when she most needed good feeding to fortify her for the operation.

I am, Sir, yours faithfully,

HENRY BAZETT.

Paddington-green, W.

MADEIRA DRAINAGE AND WATER-SUPPLY.

A CONSULAR report states that the total population of the island of Madeira at the end of December, 1913, was computed to be 180,667. There were 6858 births during the year and 3631 deaths. The public health was good. Hitherto Funchal has not possessed any drainage system worthy of the name, nor an organised system for distribution of water to the population. Water was only obtainable from landowners who happened to have springs on their properties, and if these springs existed on low-lying agricultural lands they were always subject to filtrations of all kinds, and if on the hills the water was brought to town in open watercourses which were liable to every kind of abuse. It may almost be averred that under such conditions it is only the magnificent climate of Madeira that has allowed the town of Funchal to be in any way habitable. There have been many epidemics in the past, and these may without doubt be attributed to the absolute lack of any organised sanitation. Now, however, a proper system both of drainage and water-supply is being carried out, the contract being entrusted to a British firm. A large reservoir is being constructed from which a network of pipes will be laid down for supplying drinking-water and also water for flushing and other domestic purposes, and there is every reason to believe that Funchal within two years will be as well drained as any town in the world.

KILOMETRES AND MILES.

To the Editor of THE LANCET.

SIR,—Some of your readers will probably require just now rapidly to convert kilometres into miles. A rough way is to multiply the kilometres by 0·6, the full figures are really 0·62138 (example, 100 kilometres multiplied by 0·6 equals 60 miles). A nearer approach to accuracy may be obtained by multiplying the number of kilometres by 10 and dividing by 16 (example, 100 kilometres multiplied by 10 equals 1000; divided by 16, equals 62 miles 880 yards, the real distance being 62 miles 243 yards).—I am, Sir, yours faithfully,

London, August 26th, 1914. F.

BIVOUAC COCOA AND MILK.

WE have received from Messrs. Thew, Hooker, and Gilbey, manufacturers of milk products, of 6, Holborn Viaduct, London, E.C., samples of their "bivouac" cocoa and milk suitable for use as rations in the field. A neat tin case contains six rations or packets of the powdered preparation each sufficient to make a breakfast cup full of a nourishing and stimulating fluid. It contains in good proportion all classes of food as will be seen from the following analysis we have made: Carbohydrates (cane and milk sugar), 52·00 per cent.; proteins, 13·23 per cent.; fat, 11·30 per cent.; and mineral matter, 3·50 per cent. This preparation affords an easily portable food and is an agreeable and convenient form of nourishment. If there is no water at hand it can be eaten as chocolate.

Mr. W. L. Thompson.—We do not understand our correspondent's request.

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

The following magazines, journals, &c., have been received:—Journal of Laryngology, Rhinology, and Otology, Journal of Pathology and Bacteriology, Therapist, Boston Medical and Surgical Journal, Journal of Tropical Medicine and Hygiene, American Journal of Surgery, Montreal Pharmaceutical Journal, Inter-state Medical Journal, Clinical Medicine, Maryland Medical Journal, St. Paul Medical Journal, Child, South African Medical Record, Canadian Practitioner and Review, British Journal of Dermatology, Paris Médical, Duodecim, Revista de la Sociedad Médica, Annaes Paulistas de Medicina e Cirurgia.

Medical Diary for the ensuing Week.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

POST-GRADUATE COLLEGE, West London Hospital, Hammersmith-road, W.

MONDAY.—10 A.M., Dr. Simson: Diseases of Women. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. T. Gray: Operations. Dr. Pritchard: Bacterial Therapy Department. Mr. B. Harman and Mr. Gibb: Diseases of the Eye.

TUESDAY.—10 A.M., Dr. Simson: Gynæcological Operations. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Baldwin: Operations. Dr. Davis: Diseases of the Throat, Nose, and Ear. Dr. Pernet: Diseases of the Skin.

WEDNESDAY.—10 A.M., Dr. Saunders: Diseases of Children. Dr. Davis: Operations of the Throat, Nose, and Ear. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Souttar: Operations. Dr. Simson: Diseases of Women. Mr. Gibb: Diseases of the Eye.

THURSDAY.—9 A.M., Dr. Bernstein: Bacterial Therapy Department. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. T. Gray: Operations. Mr. B. Harman: Diseases of the Eye.

FRIDAY.—10 A.M., Dr. Simson: Gynæcological Operations. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Baldwin: Operations. Dr. Davis: Diseases of the Throat, Nose, and Ear. Dr. Pernet: Diseases of the Skin.

SATURDAY.—10 A.M., Dr. Saunders: Diseases of Children. Dr. Davis: Operations of the Throat, Nose, and Ear. Mr. B. Harman: Eye Operations. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Souttar: Operations.

LONDON HOSPITAL MEDICAL COLLEGE (UNIVERSITY OF LONDON), London Hospital, Mile End-road, E.

Demonstrations in Clinical Medicine:—

MONDAY.—2.15 P.M., Dr. Wall: Pulmonary Tuberculosis. (Clinical Theatre.)

TUESDAY.—2.15 P.M., Dr. Grünbaum: Diseases of the Blood. (Clinical Theatre.)

WEDNESDAY.—2.15 P.M., Dr. Miller: Abdominal Diseases. (Out-patient Department.)

THURSDAY.—2.15 P.M., Dr. Thompson: Diseases of the Nervous System. (Clinical Theatre.)

FRIDAY.—2.15 P.M., Dr. L. Smith: Common Cardiac Conditions. (Clinical Theatre.)

SATURDAY.—10.15 A.M., Dr. Hutchison: Demonstrations on Selected Cases. (Wards or Clinical Theatre.)

Demonstrations on Selected Surgical Cases and on Cases of Interest in the Wards of the Hospital:—

MONDAY.—2 P.M., Mr. Milne.
TUESDAY.—2 P.M., Mr. Lett.
WEDNESDAY.—2 P.M., Mr. Howard.
THURSDAY.—2 P.M., Mr. Warren.
FRIDAY.—2 P.M., Mr. Walton.

THE THROAT HOSPITAL, Golden-square, W.

MONDAY.—5.15 P.M., Special Demonstration of Selected Cases.
THURSDAY.—5.15 P.M., Clinical Lecture.

ROTUNDA HOSPITAL POST-GRADUATE COURSES, Dublin.

MONDAY.—10 A.M., Obstetrical Lecture: Missed Labour (continued). 11 A.M., Examination of Patients and Minor Operations.

TUESDAY.—10 A.M., Major Operations.

WEDNESDAY.—10 A.M., Obstetrical Lecture: Abortion. 11 A.M., Examination of Patients and Minor Operations.

THURSDAY.—10 A.M., Major Operations.

FRIDAY.—10 A.M., Gynæcological Lecture: Uterine Infection 11 A.M., Examination of Patients and Minor Operations.

For further particulars of the above Lectures, &c., see Advertisement Pages.

EDITORIAL NOTICES.

IT is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITOR," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention should be given to this notice.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this office.

Lectures, original articles, and reports should be written on one side of the paper only, AND WHEN ACCOMPANIED BY BLOCKS IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers—not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale, and advertising departments of THE LANCET *should be addressed "To the Manager."*

We cannot undertake to return MSS. not used.

MANAGER'S NOTICES.

THE INDEX TO THE LANCET.

THE Index and Title-page to Vol. I. of 1914, which was completed with the issue of June 27th, were given in THE LANCET of July 4th.

VOLUMES AND CASES.

VOLUMES for the first half of the year 1914 are now ready. Bound in cloth, gilt lettered, price 16*s.* carriage extra.

Cases for binding the half-year's numbers are also ready. Cloth, gilt lettered, price 2*s.*, by post 2*s.* 3*d.*

To be obtained on application to the Manager, accompanied by remittance.

TO SUBSCRIBERS.

WILL Subscribers please note that only those subscriptions which are sent direct to the Proprietors of THE LANCET at their Offices, 423, Strand, London, W.C., are dealt with by them? Subscriptions paid to London or to local newsagents (with none of whom have the Proprietors any connexion whatever) do not reach THE LANCET Offices, and consequently inquiries concerning missing copies, &c., should be sent to the Agent to whom the subscription is paid, and *not* to THE LANCET Offices.

Subscribers, by sending their subscriptions direct to THE LANCET Offices, will ensure regularity in the despatch of their Journals and an earlier delivery than the majority of Agents are able to effect.

THE COLONIAL AND FOREIGN EDITION (printed on thin paper) is published in time to catch the weekly Friday mails to all parts of the world.

The rates of subscriptions, post free from THE LANCET Offices, have been reduced, and are now as follows:—

FOR THE UNITED KINGDOM.		TO THE COLONIES AND ABROAD.	
One Year	£1 1 0	One Year	£1 5 0
Six Months	0 12 6	Six Months	0 14 0
Three Months	0 6 6	Three Months	0 7 0

(The rate for the United Kingdom will apply also to Medical Subordinates in India whose rates of pay, including allowances, is less than Rs.50 per month.)

Subscriptions (which may commence at any time) are payable in advance. Cheques and Post Office Orders (crossed "London County and Westminster Bank, Covent Garden Branch") should be made payable to the Manager, Mr. CHARLES GOOD, THE LANCET Offices, 423, Strand, London, W.C.

TO COLONIAL AND FOREIGN SUBSCRIBERS.

SUBSCRIBERS ABROAD ARE PARTICULARLY REQUESTED TO NOTE THE RATES OF SUBSCRIPTIONS GIVEN ABOVE.

The Manager will be pleased to forward copies direct from the Offices to places abroad at the above rates, whatever be the weight of any of the copies so supplied.

SOLE AGENTS FOR AMERICA—MESSRS. WILLIAM WOOD AND CO., 51, Fifth Avenue, New York, U.S.A.

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, Sept. 2nd, 1914.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Rainfall.	Solar Radio in Vacuo.	Maximum Temp. Shade.	Min. Temp.	Wet Bulb.	Dry Bulb.	Remarks.
Aug. 27	29·90	N.W.	...	116	69	57	58	61	Cloudy
,, 28	30·26	N.E.	...	107	74	57	58	60	Cloudy
,, 29	30·31	N.	...	115	79	58	59	61	Fine
,, 30	30·27	S.W.	...	111	77	60	61	64	Overcast
,, 31	30·28	N.E.	...	103	72	60	62	68	Fine
Sept. 1	30·34	E.	...	117	75	63	61	65	Cloudy
,, 2	30·32	E.	...	112	76	57	58	63	Fine

Communications, Letters, &c., have been received from—

A.—Messrs. Allen and Hanburys, Lond.; Mr. R. J. Albery, Lond.; Mr. T. Avashia, Kutiana.

B.—Messrs. J. Beal and Son, Brighton; Bristol Royal Naval Hospital; Bristol Royal Hospital for Sick Children, Secretary of; Dr. W. Briggs, Blackburn; Captain Bennett, R.A.M.C., Cambridge; Mr. W. T. Beswick, Lond.; Mrs. Batley, Christchurch; Messrs. Burroughs Wellcome and Co., Lond.; Blackburn, Medical Officer of Health of; Mr. C. Birchall, Liverpool; Messrs. R. and J. Beck, Lond.; Dr. G. S. Brock, St. Andrews; Messrs. E. J. Burrow and Co., Cheltenham; British Red Cross Society, Lond., Secretary of; Dr. C. Hubert Bond, Lond.; Board of Education, Lond., Secretary of; Mr. W. H. Brown, Lond.; Birmingham University, Clerk of; Mr. Clark Bell, New York.

C.—Mr. A. G. Clowes, Beccles; Mr. B. G. Courtney, Liverpool; G. W. Carnrick Co., New York; Coventry Hospital, Secretary of; Lieutenant-Colonel Eustace M. Callender, R.A.M.C.(T.), Lond.; Colonial Office, Lond.; Cornwall County Council, Truro, County Medical Officer of; Cheshire County Council, Chester, Senior Medical Officer of; County Asylum, Winwick, Superintendent of; Messrs. Casein, Lond.; Dr. W. H. Coupland, Lancaster; Dr. Myer Copians, Lond.; Chadwick Trust, Lond., Secretary of; *The City Press*, Lond., Publishers of; Co-Partnership Tenants Housing Council, Lond.

D.—Derbyshire County Council, Derby, Chief Medical Officer of; Dumfries and Galloway Royal Infirmary, Treasurer to the; Mr. R. D. Davis, Lond.; D. A. B.; Dr. E. Dupuy, Versailles; Mr. A. G. Denmark, Langenburg; Mr. Francis Downman, Lond.; Dr. J. Lawson Dick, Lond.

E.—Messrs. Elliott and Sons, Barnet; Emergency Voluntary Aid Committee, Lond., Hon. Secretary of; Eastbourne Corporation, Medical Officer of Health of.

F.—Messrs. S. and T. Fraser, Manchester; Messrs. Fannin and Co., Dublin; Mr. R. Farrant, Lond.; Messrs. Fletcher, Russell, and Co., Lond.; Dr. Leonard Findlay, Glasgow.

G.—Mr. F. Gill, Sheffield; Great Yarmouth Hospital, Hon. Secretary of; Messrs. A. H. Grantham and Co., Reading; Messrs. W. Green and Son, Edinburgh.

H.—Messrs. H. Hunter and Co., Lond.; Harris Gas Stove Co., Lond., Manager of; Messrs. Hodder and Stoughton, Lond.; Mr. H. Hancock, Lond.; Dr. W. Curling Hayward, Dundee; Dr. A. C. Houston, Lond.; Professor I. Walker Hall, Bristol; Health Week Committee, Lond., Secretary of.

I.—International News Co., Lond.; I. G.

J.—*Journal of the American Medical Association*, Chicago.

K.—King Edward Memorial Hospital, Lond., Chairman of; Kent County Council, Maidstone, Chief Medical Officer of; Messrs. R. A. Knight and Co., Lond.; Mr. R. Knight, Lond.; Mr. William Kirkby, Manchester; Mr. James Keith, Bexhill-on-Sea.

L.—Mr. H. K. Lewis, Lond.; Liverpool Corporation, Secretary of; Dr. Thomas D. Lister, Lond.; London Press Exchange, Lond.; Sir W. Arbuthnot Lane, Bart., Lond.; Miss L. Loat, Lond.; Local Government Board, Lond., Medical Officer to the; Local Government Board, Lond., Secretary of; Dr. Thomas D. Luke, Peebles.

M.—Messrs. F. Mundy, Gilbert, and Co., Birmingham; Messrs. Mather and Crowther, Lond.; Mr. W. Martindale, Lond.; Dr. E. E. Maddox, Bournemouth; Messrs. C. Mitchell and Co., Lond.; Maltine Manufacturing Co., Lond.; Professor A. E. Moore, Blackrock; Mrs. E. M. Mumby, Southsea; Mr. W. J. Midelton, Bournemouth; Mrs. N. Mumby, Southsea.

N.—Mr. Lionel E. C. Norbury, Lond.; National Anti-Vaccination League, Secretary of; North Riding Infirmary, Middlesbrough, Secretary of.

P.—Messrs. J. and J. Paton, Lond.; Messrs. G. P. Putnam's Sons, Lond.; Messrs. Parke, Davis, and Co., Lond.; Portsmouth Borough Asylum, Medical Superintendent of.

R.—Dr. M. B. Ray, Harrogate; Messrs. Robertson and Scott, Edinburgh; Royal Waterloo Hospital, Lond., Secretary of; Royal Gwent Hospital, Newport, Secretary of; Royal Surrey County Hospital, Guildford, Secretary of; Renfrew Machinery Co., Milwaukee, U.S.A.; Rotunda Hospital, Dublin, Secretary of; Dr. Henry Rundle, Southsea; Royal Sanitary Institute, Lond., Secretary of; Lieutenant-Colonel George Ranking, R.A.M.C.(T.), Oxford; Dr. A. Banks Raffle, Lond.; Mr. J. T. Reade, Belfast; Dr. William Russell, Elvanfoot; Richmond Gas Stove Co., Lond.; Royal Victoria Hospital, Dover, Hon. Secretary of; Royal Infirmary, Preston, Secretary of; Royal Medical Benevolent Fund, Lond., Secretary of.

S.—St. Mary's Hospital for Women and Children, Lond., Secretary of; Scarborough Hospital and Dispensary, Secretary of; Salford Union Infirmary, Clerk to the; *Shrewsbury Chronicle*, Secretary of; Dr. A. Sieger, Greenock; Somerset County Council, Weston-super-Mare, Secretary of; Messrs. Shaw and Blake, Lond.; S. M. H.; Seamen's Hospital Society, Lond., Secretary of; Messrs. Edward Stanford, Lond.; Sheffield University, Registrar of; Sheffield Education Committee, Secretary of; Salford Royal Hospital, Secretary of; Sir D. Semple, Leigh-on-Sea; Messrs. G. Street and Co., Lond.; Mr. J. Alfred Sharp, Lond.; Mr. A. E. Shipley, Cambridge; Major C. G. Spencer, R.A.M.C., Lond.; Surbiton, Medical Officer of Health of; Mr. Sydney Schiff, Lond.

T.—Mr. H. M. Thornton, Lond.; Mr. J. Thin, Edinburgh; Dr. E. N. Thornton, Sporle; Messrs. W. Thacker and Co., Lond.; Mr. W. L. Thompson, Lond.; Dr. H. L. Tidy, Lond.; Dr. T. S. Tirumurti, Madras.

U.—United States Patent Office, Washington.

V.—Victoria Hospital, Hull, Secretary of.

W.—Wolverhampton General Hospital, Secretary of; Messrs. Wilson and Mathieson, Leeds; Messrs. Whiffin and Sons, Lond.; Woodhall Spa Co., Secretary of; Women's Hospital for Children, Lond., Secretary of; Messrs. W. Wood and Co., New York; Mr. A. Wilson, Lond.; Dr. Humphrey J. Wheeler, Lond.; Messrs. Williams and Norgate, Lond.; West London Hospital Post-Graduate College, Dean of; Dr. Walter L. Woollcombe, Plymouth; Walsall and District Hospital, Secretary of; Messrs. F. Williams and Co., Lond.; Dr. John H. Watson, Burnley; Mr. J. H. White, Lond.

Y.—Yöst Typewriter Co., Lond.

Z.—Dr. T. Zangger, Zürich.

Letters, each with enclosure, are also acknowledged from—

A.—Dr. M. A. Ansari, Delhi; Ashwood House, Dudley, Secretary of; A. J. A.

B.—Mr. F. Bartenstein, Lond.; Sir Lauder Brunton, Bart., Lond.

C.—Dr. F. G. Caley, Lond.; Messrs. J. and A. Carter, Lond.; Coventry Corporation, Treasurer to the.

D.—Dr. Lovell Drage, Hatfield; David Lewis Colony, Manchester, Secretary of; D. A. C.; Dundee Royal Infirmary, Treasurer to the.

E.—Messrs. Evans, Sons, Lescher, and Webb, Lond.; Miss Edis, Lond.; Messrs. Ellis Bros., Lond.

G.—Messrs. A. H. Grantham and Co., Lond.

H.—Mr. C. A. Hoefttcke, Lond.; Mr. T. Hunt, Wellington College; Dr. O. Horwood, Pershore; Dr. A. F. Hewat, Edinburgh; Messrs. Higgs and Co., Henley-on-Thames; Hospitals and General Contracts Co., Lond.

I.—Ilford Urban District Council, Treasurer to the; I. F.

J.—J. D. W.; J. L. W.; J. W.

K.—Messrs. H. S. King and Co., Lond.; Kent County Ophthalmic Hospital, Maidstone, Secretary of; Kirkmabreck Parish Council, Creetown.

L.—Mr. T. S. Logan, Aylesbury; "Locum," Ilkeston; Leicester Royal Infirmary, Secretary of; London Temperance Male and Female Nurses' Co-operation, Secretary of; L. B.; Leeds Tuberculosis Association, Secretary of; Lloyd's Bank, Lond., Manager of.

M.—Manchester Guardians, Cashier of; Dr. W. W. Maxwell, Thames Ditton; Dr. MacGrath, Dunfanaghy; Manchester Corporation, Clerk to the; Monmouthshire Asylum, Abergavenny, Clerk to the.

N.—New Mental Nurses' Co-operation, Lond., Secretary of; Northumberland House, Lond., Secretary of.

P.—Sir R. Philip, M.D., Edinburgh; Messrs. Parke, Davis, and Co., Lond.; Prestwich Union, Manchester, Secretary of; Portsmouth Guardians, Clerk to the; Mr. A. J. Pelton, Tunbridge Wells.

R.—Dr. S. H. Rentzsch, Launceston; Mr. H. Richardson, Stocksfield-upon-Tyne; Royal South Hants and Southampton Hospital, Secretary of; Miss Rattray, Haslemere.

S.—Dr. W. K. Sibley, Lond.; Messrs. Strachan, Oswell, and Co., Lond.; St. John's Hospital, Manchester; Mr. E. Stephenson, Newcastle-on-Tyne; Messrs. W. H. Smith and Son, Lond.; Messrs. Spiers and Pond, Lond.; Messrs. H. Squire and Co., Lond.; South Devon and East Cornwall Hospital, Plymouth, Secretary of; S. B.; St. Mary (Islington) Infirmary, Lond., Secretary of; Messrs. W. B. Saunders Co., Lond.

V.—Messrs. Van Houten, Lond.; "Vicar," Theale.

W.—Mr. A. Wright, Liverpool; Mr. A. Wander, Lond.; W. C. C.; Miss Willmott, Guildford; Mr. A. C. J. Wilson, Penistone; Warneford, Leamington, and South Warwick Hospital, Leamington Spa; Women's Hospital, Lond., Secretary of; Welsh Hospital, Cardiff, Hon. Secretary of; Woolwich Tuberculosis Dispensary, Lond., Secretary of.

EVERY FRIDAY. **THE LANCET.** PRICE SIXPENCE.

SUBSCRIPTION, POST FREE.

FOR THE UNITED KINGDOM.*		TO THE COLONIES AND ABROAD.	
One Year	£1 1 0	One Year	£1 5 0
Six Months	0 12 6	Six Months	0 14 0
Three Months	0 6 6	Three Months	0 7 0

* *The same rate applies to Medical Subordinates in India.*

Subscriptions (which may commence at any time) are payable in advance.

ADVERTISING.

Books and Publications	Five Lines and under £0 4 0
Official and General Announcements	
Trade and Miscellaneous Advertisements and Situations Vacant ...	Every additional Line 0 0 6
Situations wanted: First 30 words, 2*s.* 6*d.*; per additional 8 words, 6*d.*	
Quarter Page, £1 10*s.* Half a Page, £2 15*s.* An Entire Page, £5 5*s.*	
Special terms for Position Pages.	

An original and novel feature of "THE LANCET General Advertiser" is a Special Index to Advertisements on pages 2 and 4, which not only affords a ready means of finding any notice but is in itself an *additional* advertisement.

Advertisements (to insure insertion the same week) should be delivered at the Office not later than Wednesday, accompanied by a remittance.

Answers are now received at this Office, by special arrangement, to advertisements appearing in THE LANCET.

The Manager cannot hold himself responsible for the return of testimonials, &c., sent to the Office in reply to advertisements; copies only should be forwarded.

Cheques and Post Office Orders (crossed "London County & Westminster Bank, Covent Garden Branch") should be made payable to the Manager, Mr. CHARLES GOOD, THE LANCET Office, 423, Strand, London, to whom all letters relating to advertisements or subscriptions should be addressed.

THE LANCET can be obtained at all Messrs. W. H. Smith and Son's and other Railway Bookstalls throughout the United Kingdom. Advertisements are also received by them and all other Advertising Agents.

HELPFUL BOOKS

For the Red Cross Nurse

Morrow's Immediate Care of the Injured

"A book which can be thoroughly recommended to the serious student of first-aid work. The language is simple and non-technical, the subject-matter well arranged and adequate in scope, while the illustrations are numerous, helpful, and distinctly above the average standard found in similar works."

—EDINBURGH MEDICAL JOURNAL.

Octavo of 360 pages, with 242 illustrations. By ALBERT S. MORROW, M.D., New York Polyclinic. New (2nd) Edition. Cloth, 12s. net.

Sanders' Modern Methods in Nursing

"We would strongly recommend it to nurses; the owner will rarely be at a loss for good and practical methods of carrying on her nursing duties if she study it carefully and keep it handy for reference."

ST. BARTHOLOMEW'S HOSPITAL JOURNAL.

12mo of 881 pages, with 227 illustrations. By GEORGIANA J. SANDERS, formerly Assistant Matron at Addenbrooke's Hospital, Cambridge. Cloth, 12s. net.

Aikens' Hospital Management

"The whole work is worthy of the notice of all who are interested in the art of hospital management. ..... We can cordially commend the book to hospital managers of every degree."

—BRITISH MEDICAL JOURNAL.

12mo of 488 pages, illustrated. Edited by CHARLOTTE A. AIKENS, formerly Director of the Sibley Memorial Hospital. Cloth, 13s. net.

Stoney's Practical Points in Nursing

"Looked at from all standpoints this is a most useful book, written by a nurse who obviously thoroughly understands the special difficulties likely to be met with in nursing."—MEDICAL CHRONICLE.

12mo of 495 pages, fully illustrated. By EMILY A. M. STONEY, formerly Superintendent of the Training School for Nurses, Carney Hospital. Fourth Edition. Cloth, 7s. 6d. net.

Beck's Reference Handbook for Nurses

"Will be found to contain much invaluable information in a very small compass. It professes to be a book of useful notes for easy reference, and that is exactly what it is. We advise all nurses to become possessors of a copy."—THE NURSING TIMES.

16mo of 229 pages. By AMANDA K. BECK, Chicago. Flexible leather, 6s. net.

Send for Saunders' Complete List of Books for Nurses.

Books sent, Carriage Paid, on Receipt of Price.

W B. SAUNDERS COMPANY, 9, Henrietta Street, London, W.C.

INDEX—(CONTINUED).

PAGE

NURSING INSTITUTES:—
Co-operation of Temperance Male and Female Nurses ... 43
General Nursing Association ... 44
Hospital for Sick Children, Great Ormond-street ... 44
Leeds Trained Nurses' Institution ... 43
London Nurses' Association ... 43
London Temperance Male and Female Nurses Co-operation ... 43
Male Nurses Temperance Co-operation ... 44
Mental Nurses' Co-operation ... 44
Nurses' Co-operation, Portland-place ... 44
Registered Nurses' Society ... 44
St. Bartholomew's Hosp. Trained Nurses' Institution ... 44
St. John's House ... 44

PAGE

NURSING INST.—(Continued).
St. Luke's Hospital ... 43
Temperance Association of Male Nurses, Ltd. ... 43
Temperance Male Nurses Co-operation ... 44
Temperance Male and Female Nurses Co-operation ... 43
The Retreat, York ... 43

OFFICIAL NOTICES:—
Central London Throat, Nose and Ear Hospital ... 38
City of London Lying-in Hospital ... 41
London Medical Exhibition Cover iv
London School of Tropical Medicine ... 40
Queen Charlotte's Lying-in Hospital ... 41

PAGE

OFFICIAL NOTICES—(Continued).
Royal College of Physicians of Edinburgh ... 41
Royal College of Surgeons of England ... 38
Royal Institute of Public Health ... 42
St. Bartholomew's Hospital and College ... 38
University of Cambridge ... 41
West End Hospital for Diseases of Nervous System ... 40
York-road General Lying-in Hospital, Lambeth ... 41

PARTNERSHIPS & PRACTICES:—
Arnold & Sons, Giltspur-street ... 57
Manchester Clerical, Medical, and Scholastic Association ... 57
No. 163, L.O., Strand ... 57

PAGE

PARTNERSHIPS—(Continued).
Peacock & Hadley, Craven street. 57
Turner ... 57

RAILWAY & STEAMSHIP CO.'S:—
New Zealand Shipping Co. ... 42

SCHOOLS, PREPARATORY, &c.:—
Agricultural College, Aspatria, Cumberland ... 42
British and Foreign Schools Agency, Manchester ... 42
The Grange, Folkestone ... 42

TUTORS & LECTURERS:—
Beckton ... 42 | Gemmell ... 42
Med. Corres. College ... 42 | Weymouth .. 42

TRADE AND MISCELLANEOUS ADVERTISEMENTS

AMBULANCES:—
St. John Ambulance—
Invalid Carriages ... 37

BOTTLE MERCHANTS:—
Isaacs ... 37

CARRIAGES, MOTORS, &c.:—
Armstrong—
Coachmen's, Grooms', and Chauffeurs' Liveries ... 37
United Motorists Co-operative Supply ... 37

CHEMISTS & DRUGGISTS:—
Allen & Hanburys—
Bynin Amara ... 34
Castor Oil ... 35
Armbrecht, Nelson & Co.—
Medium Emanation Water ... 34
Bishop, Ltd.—
Hydropyrin ... Cover iii
Kaimopyrin ... " iii
British Oxygen Co.—
Oxygen ... 35
Browning & Co.—
Semprolin Emulsion c. Salol ... 16
Semprolin Preparations ... 16
Bullock & Co.—
Pepsina Porci ... 35
Acid Glycerine of Pepsine ... 35
Burroughs Wellcome & Co.—
English-made Cocaine ... 27
Ergot and Glycerophosphates ... 27
Christy & Co.—
Ercoapiol ... 32
Clay, Paget & Co.—
Glycolactophos ... 16
Corbyn, Stacey & Co.—
Elixir Lecithin ... 60
Duncan, Flockhart & Co.—
War Medical Supplies ... 20
Evans Sons Lescher & Webb—
Bacteriological Research Laboratories ... 22
Algiron ... 23
Capsul. Ol. Santal. Flav. ... 22
Fellows—
Syrupus Hypophosphitum ... Cover iii
Fletcher, Fletcher & Co.—
Endolytic Tubes ... 29
Gale & Co., Ltd.—
Entrapuro ... 36
Sugonum ... 36
" Antiseptics ... 36
Hogg & Son—
Protein Nerve Food ... 36
Hudson's Eumenthol Chemical Co.—
Eumenthol Jujubes ... 33

CHEMISTS—(Continued).
Macfarlan & Co.—
Chloroform ... 35
Ether ... 35
Listerian Dressings and Catgute ... 35
Parke, Davis & Co.—
Coagulose ... 17
Argentide ... 17
Raimes & Co.—
Slinger's Nutrient Suppositories ... 29
Salicin ... 18
Squire & Sons—
Elix. Hypophysis Cereb. ... 31
Elixir Colloid ... 31
Sterilestes ... 31
Tidman's Sea Salt ... 35
Waterbury Chemical Company—
Cod Liver Oil Compound ... 34
Pinozyme ... 34
Welford & Sons—
Sauernitch ... Cover ii
Wilcox, Jozeau & Co.—
Nativelle's Crystallised Digitaline ... 32
Willows, Francis, Butler & Thompson, Ltd.—
Mackey's Glyceroles ... 30

DISINFECTANTS:—
Allen & Hanburys—
Medical Izal ... 25
Pearson's Antiseptic Company—
Pacolol ... 21
Quibell Bros., Ltd.—
Kerol ... 33
" Capsules ... 33
Zimmermann & Co.—
Lysol ... 34

ENGRAVERS (NAME PLATES) &c.—
Cooke & Co.—
Brass Name Plates and Lamps 38

FOODS:—
Allen & Hanburys—
Allenburys Foods for Infants.. 25
Aylesbury Dairy Co.—
Humanised Milk ... 34
Benger's Food, Ltd.—
Benger's Food ... 19
Blatchley's Diabetic Preparations 34
Bovinine Co.—
Bovinine ... 13
Casein Limited—
Secwa ... 36

FOODS—(Continued).
Mellin's Food, Ltd.—
Mellin's Food ... 32
" " Biscuits ... 32
" Lacto ... 32
Valentine's Meat Juice Co.—
Meat Juice ... Cover ii
Van Abbot & Sons—
Foods for Diabetics and Obesity 36

FURNITURE, &c.:—
Carter—
The Hove Self-Propelling Chair ... 11
The Sandown Spinal Carriage. New Model ... 11
Reading Stands, Bed Tables, Adjustable Reclining Chairs, &c. ... 11

HOSPITALS (ISOLATION):—
Boulton & Paul, Ltd.—
Revolving Shelters ... 10

MED. & SURG. APPLIANCES:—
Arnold & Sons—
The New Patent Phonophore Stethoscopes ... 11
Bailey & Son—
Operation Theatre Outfit ... 10
Davis—
Lukens Sterile Catgut ... 8
Down Bros., Ltd.—
New Operation Table ... 9
Garrould—
Surgeon's Operating Gown ... 8
" " Apron .. 8
Hawksley & Sons—
Knee Trusses ... 37
Hewitt & Son—
Motor Car Emergency Case .. 26
Emergency Dressings ... 26
"Surgery Compactum" Caddy Cabinet ... 26
"Factory Compactum" Caddy Cabinet ... 26
"Hospital Compactum" Caddy Cabinet ... 26
Hoeftcke—
Hoeftcke's Extension Appliances ... 28
Holborn Surgical Instrument Co.—
First Aid Stretchers ... 12
Webbing Slings ... 12
Leather " ... 12
Wool Pillows ... 12
Hair " ... 12
Rugs ... 12

MED. APPLIANCES—(Continued).
Hospitals and General Contracts Co.—
Instruments, Dressings, Surgical Furniture, &c. ... 30
Lealles, Ltd.—
Lealles Zincoplast ..... Cover ii
Millikin & Lawley—
Osteology, &c. ... 10
Robinson & Sons—
Capsicum Gamgee Tissue 36
Surgical Manufacturing Co.—
The "Surgman" Openwork Elastic Stockings, Knee Caps, &c. ... 8
Timpson & Co.—
Reliable Ligatures ... 12

MINERAL WATERS:—
Davis—
Hercules Water ... 36
Evian-Cachat Agency—
Evian-Cachat Water ... 15

OPTICIANS:—
Bruce, Green & Co.—
The Wyche Portable Lamp 12
Handy Portable Trial Cases .. 12

TAILORS, BOOTMAKERS, &c.:—
Dowie & Marshall—
Hygienic Bootmakers ... 8

VACCINE LYMPH:—
Jenner Institute for Calf Lymph.. 37
Renner's Calf Lymph Establishment ... 37
Roberts & Co.—
Chaumier's Calf Lymph 37

WINES, BEER, SPIRITS, &c.:—
Dunville & Co.—
Irish Whisky ... 14
Nicholson & Co.—
Dry Gin ... 14
Williams & Co.—
Chancellor Brandy ... 29

MISCELLANEOUS:—
Francis, Barnes—
Medical Typewriting ... 37
Mousell Brothers—
Removals ... 37
No. 168, L.O., Strand ... 37
The Doctors' Wives Association .. 13

EVERY FRIDAY.

THE LANCET.

PRICE SIXPENCE.

SUBSCRIPTION, POST FREE.

FOR THE UNITED KINGDOM.*				TO THE COLONIES AND ABROAD.			
One Year	£1	1	0	One Year	£1	5	0
Six Months	0	12	6	Six Months	0	14	0
Three Months	0	6	6	Three Months	0	7	0

* *The same rate applies to Medical Subordinates in India.*

Subscriptions (which may commence at any time) are payable in advance.

An original and novel feature of "THE LANCET General Advertiser" is a Special Index to Advertisements on pages 2 and 4, which not only affords a ready means of finding any notice, but is in itself an *additional* advertisement.

Advertisements (to ensure insertion the same week) should be delivered at the Office not later than Wednesday, accompanied by a remittance.

Answers are now received at this Office, by special arrangement, to Advertisements appearing in THE LANCET.

The Manager cannot hold himself responsible for the return of testimonials, &c., sent to the Office in reply to advertisements; copies only should be forwarded.

Cheques and Post Office Orders (crossed "London County and Westminster Bank, Covent Garden Branch") should be made payable to the Manager, Mr. CHARLES GOOD, THE LANCET Office, 423, Strand, London, to whom all letters relating to Advertisements or Subscriptions should be addressed.

THE LANCET can be obtained at all Messrs. W. H. Smith & Son's and other Railway Bookstalls throughout the United Kingdom. Advertisements are also received by them and all other Advertising Agents.

ADVERTISING.

Books and Publications	Five Lines and under £0 4 0
Official and General Announcements	
Trade and Miscellaneous Advertisements and Situations Vacant ...	Every additional Line 0 0 6
Situations wanted: First 30 words, 2s. 6d.; per additional 8 words, 6d.	
Quarter Page, £1 10s. Half a Page, £2 15s. An Entire Page, £5. 5s.	

Special terms for Position Pages.

OFFICES: 423 and 424, STRAND, LONDON, W.C., and 1, 2, and 3, BEDFORD STREET, Adjoining.

Agent for the Advertisement Department in France—J. ASTIER, 35, RUE FRANKLIN, Asnières, Paris.

The Lettsomian Lectures
ON
DYSENTERY.

Delivered before the Medical Society of London, 1914,

BY F. M. SANDWITH, M.D. DURH., F.R.C.P. LOND.,
GRESHAM PROFESSOR OF PHYSIC; LECTURER ON TROPICAL DISEASES, ST. THOMAS'S HOSPITAL, ETC.

LECTURE II. (PART I.)*

AMŒBIC DYSENTERY.

THE physician must be able to tell the antecedents, know the present and foretell the future; must meditate these things, and have two special objects in view with regard to diseases, namely, to do good or to do no harm. The art consists in three things—the disease, the patient, and the physician. The physician is the servant of the art, and the patient must combat the disease along with the physician.—Hippocrates, "Epidemics," Book I.

THE ENTAMŒBÆ OF THE HUMAN INTESTINE.

This question is a complicated one, due partly to changes of nomenclature, and I therefore propose to devote a few minutes to placing on record the present position of our knowledge. In the preparation of this part of the lecture I have received much practical assistance from the well-known protozoologist, Dr. C. M. Wenyon.

As I stated in my first lecture, amœboid organisms in the human intestine were first satisfactorily described by Lösch in 1875. He gave the name Amœba coli to amœbæ which he had seen in the stools of a patient presenting dysenteric symptoms in St. Petersburg. From the figures and description given by Lösch it would appear that the organism observed by him is identical with the one which is now known to be the cause of amœbic dysentery. But for some reason which is not quite clear it is now generally assumed that he was dealing with the non-pathogenic entamœba of man, and in consequence the name Entamœba coli is now employed for this species. Many observers after Lösch recognised the possible pathogenicity of the human entamœbæ, and frequently demonstrated that dysenteric lesions could be produced in animals (cats, dogs, and monkeys) by the rectal injection of fæces from dysenteric patients.

In 1891 Councilman and Lafleur published a very exhaustive account of amœbic dysentery, and fully recognised its cause in an amœboid organism which they named Amœba dysenteriæ. There can be no doubt that these observers were dealing with the entamœba which is now recognised as the cause of amœbic dysentery throughout the world, and if we still adhere to the view that Lösch was observing the non-pathogenic form, then the name Entamœba dysenteriæ is the proper name for the common dysentery-causing entamœba of man. In 1895 Casagrandi and Barbagallo studied human entamœbæ, and gave a description (under Lösch's name Amœba coli) of the common non-pathogenic form, the one which is now recognised as Entamœba coli.

The Developmental Cycle.

Finally, Schaudinn came into the field and demonstrated clearly, what others before him had suspected, that the human intestine was liable to infection from two distinct organisms, one pathogenic and the other harmless, and that much of the confusion connected with the subject of amœbic dysentery was due to a failure to recognise this fact. Schaudinn re-described the Entamœba coli of Casagrandi and Barbagallo, who had previously recognised the encysted forms of Entamœba coli, and had fully appreciated their importance in the matter of survival outside the body of man and of conveyance of infection to a new host. They had observed that within the cyst the Entamœba coli multiplied, and that when the cyst came into a new host it ruptured and there emerged eight small, young entamœbæ which brought about infection. Schaudinn added little to this account except that he described a developmental process as taking place within the cyst, which was of the nature of a self-fertilisation, termed autogamy, and which preceded the division of the entamœba into eight daughter cells. This autogamy process for Entamœba coli has received no confirmation and many authorities even question its existence.

On the subject of the pathogenic entamœba Schaudinn confirmed much of the work which had previously been done by others, and added further details relating to the developmental cycle. Unfortunately his researches were made on insufficient material containing degenerating entamœbæ, and they therefore cannot be regarded as correct. On the strength of his observations Schaudinn created for the pathogenic entamœba the name Entamœba histolytica, which is now generally employed. He described Entamœba histolytica as reproducing in the large intestine of man, by a simple division into two parts or by a process of gemmation whereby small buds having a diameter of 3–6 μ were separated from the parent organism. These buds were supposed either to grow into adult entamœbæ again or to become enclosed in very tough brown capsules, in which case they acted as spores, escaped from the intestine and brought about infection of a new individual. Hartmann has examined many of the preparations on which Schaudinn's account was based and finds that he was dealing with degenerating forms, which led him to deduce an erroneous cycle of development.

It is not to be wondered at that Schaudinn failed to recognise in his preparations the organism described by Councilman and Lafleur as Amœba dysenteriæ, for it had been studied in a far greater amount of material than Schaudinn had at his disposal. Councilman and Lafleur observed only the free amœboid forms and did not encounter the encysted forms which could convey the infection.

The next step in advance was made by Viereck (1907), who studied amœbic dysentery in West Africa and found that the organism producing the disease differed from that described by Schaudinn in that there occurred encysted forms which were very much like the encysted forms of Entamœba coli. They were, however, smaller, being 10–12 μ in diameter, instead of 15–20 μ, and led to the production of only four daughter entamœbæ within the cyst instead of eight. These encysted forms differed so much from Schaudinn's small brown spores that Viereck concluded that he was dealing with a distinct entamœba, which he called Entamœba tetragena.

Observers all over the world then began to look for Viereck's encysted forms (tetragena cysts), and it soon became evident that wherever amœbic dysentery occurred, there the causative entamœba produced Viereck's cysts and never the small brown spores described by Schaudinn. The suspicion has since gradually gained ground, till at the present

* Lecture I. was published in THE LANCET of Sept. 5th, 1914, p. 637.

time it amounts to a conviction, that Schaudinn must have been wrong in his account and that the development described by Viereck, which led him to regard his entamœba as a new species, was simply the first true account of the development of the pathogenic entamœba of man, which had been studied by numerous observers in all parts of the world, and had been first named Amœba dysenteriæ by Councilman and Lafleur and, later, Entæmœba histolytica by Schaudinn. The true name for the pathogenic entamœba of man should therefore, by priority, be Entamœba dysenteriæ. It should, however, never be forgotten that Schaudinn was the first clearly to recognise two distinct human entamœbæ, one pathogenic and the other non-pathogenic, and that this did a great deal to clear up the existing confusion.

The Parts Played by the Two Forms of Amœbæ.

At the present time the most accepted view is that the large intestine of man is liable to infection by two distinct entamœbæ. One of these, Entamœba coli, is a harmless organism, living merely on the intestinal contents and never penetrating the mucous membrane. It reproduces by simple division, and possibly by a multiple segmentation into eight, also in the intestine, and occasionally becomes enclosed in transparent spherical cysts, having a diameter of 15–20 μ, and within which in the next host it ultimately divides into eight daughter entamœbæ. These cysts are passive bodies and escape from the intestine naturally with the fæces, and, being resistant, they protect the entamœbæ within till chance shall bring them into the intestine of a new host.

The second entamœba, the Entamœba dysenteriæ (E. histolytica, Schaudinn, or E. tetragena, Viereck), is a pathogenic organism which not only lives amongst the intestinal contents, but actually invades the tissues of the large intestine, leading to all the troubles and symptoms associated with amœbic dysentery. This organism reproduces in the intestine by simple division like Entamœba coli, and also sometimes becomes encysted in transparent cysts having a diameter of 10–12 μ. Within the cyst there are produced in the next (human) hos four daughter entamœbæ, and, as in the case of Entamœba coli, the cysts are responsible for the carriage of infection from one individual to another. As the entamœbæ themselves survive only a short time outside the host, the importance of these encysted forms is evident, for it is by their agency that amœbic dysentery is kept going. While living in the intestine of cases of active dysentery the entamœbæ are large organisms 20–30 μ or more in diameter, and in this condition they invade the tissues and produce the extensive undermined ulcers so characteristic of the disease.

During the height of the dysenteric attack, when there is active invasion of the tissues, encysted forms are not produced, but as the dysenteric process abates, possibly by way of protecting themselves against antibodies, the entamœbæ begin to encyst. Prior to encystment, however, the characters of the entamœbæ change somewhat, and instead of comparatively large organisms there appear smaller forms having a diameter of only 10–20 μ. This small type differs also in the character of its cytoplasm, so much so that Elmassian, in 1909, was led to describe it as a distinct entamœba under the name of Entamœba minuta. It is now known that these represent the pre-encysting generation of the pathogenic entamœba. Persons who have apparently recovered from an attack of amœbic dysentery may have entamœbæ of the "minuta" type multiplying in the intestine apparently without there being any active invasion of the tissues.

During this time the entamœbæ are constantly encysting, and the individual may be passing, with a little mucus, enormous numbers of the infective encysted forms in the stools. Such individuals are termed by E. L. Walker and A. W. Sellards "convalescent carriers," and they are not only in a condition dangerous to themselves, in that they are always liable to relapse, the "minuta" forms of the entamœbæ giving place to the large active tissue-invading forms ("histolytica" forms), which begin again their destruction of the wall of the large intestine; but they are exceedingly dangerous to other people, in that they may be distributing broadcast the infective cysts, which have only to gain entrance to the intestine, in the food or water, to bring about infection. Such individuals are, in fact, infinitely more dangerous than those who are suffering from acute dysentery and who are passing only the large non-infective "histolytica" forms. It is not known with certainty exactly how long such "convalescent carriers" may harbour the "minuta" forms of the pathogenic entamœba without themselves suffering a relapse of their old symptoms or ridding themselves of their infection. It may at least be for a period of several months.

Walker and Sellards have described, under the name of "contact carrier," another type of individual who is found to be infected with the "minuta" generation without ever having suffered from amœbic dysentery. They suppose that such persons have become infected by ingesting encysted forms, but that the entamœbæ, for some reason not understood, have not invaded the tissues and have remained in the cavity of the intestine as "minuta" forms, which reproduce there and encyst as in the "convalescent carriers." It may be concluded, therefore, that from the point of view of the already infected individual, the free entamœbæ are of importance because they are the tissue-invading forms, but that from the point of view of spread and dissemination of the disease the cysts only are to be feared. With a little experience it is easy to recognise and identify in fæces the encysted forms of either Entamœba coli or Entamœba dysenteriæ, but the identification of the free unencysted forms presents much greater difficulties, even to the expert.

Experimental Work.

It is impossible to enter here into the details of experimental work which has led to the view outlined in this lecture. It has been frequently shown that injection of the pathogenic entamœbæ into animals leads often to their infection and death from amœbic dysentery. Since the encysted stages of the entamœbæ have been recognised, more accurate experiments have been conducted. From the work of Darling, James, Wenyon, Walker, and others it has been shown that, in cats especially, the free forms of Entamœba coli injected per rectum and the encysted forms given per os do not lead to any dysenteric symptoms, whereas the free Entamœba dysenteriæ injected per rectum or the encysted forms given per os lead to intense infection of the large intestine, invasion of the tissues, and the production of a condition of affairs exactly comparable to that of a human being suffering from amœbic dysentery.

In a series of investigations undertaken at the

London School of Tropical Medicine Wenyon carried on the infection in cats for a series of passages. The initial infection was produced by injecting per rectum and per os the stool of a patient who had previously had amœbic dysentery, but had recovered. It was found, on routine examination, that there was a large infection of the "minuta" form and numbers of cysts were being passed. In fact, the patient was a "convalescent carrier." The first cat so treated acquired typical acute amœbic dysentery, and there were passed thousands of entamœbæ which were large and of the "histolytica" type. No cysts, however, could be found. The gut contents of this cat, injected per rectum into a second cat, reproduced the condition of the first. A third cat was infected from the second and a fourth from the third. All the animals died of the disease and post mortem they all showed ulceration of the large intestine, which on section was found to be invaded by countless numbers of the large entamœbæ. The entamœbæ were also found in the mesenteric glands, while in the fourth cat there were found in addition four abscesses of the liver containing numbers of large entamœbæ. In this cat there was thus reproduced not only the dysenteric condition of man but also liver abscess, which occurs as a complication in so large a percentage of cases of human amœbic dysentery.[1] The primary invasion of the intestinal wall by the entamœbæ can more easily be studied in the cat than in man on account of the possibility of obtaining material unaltered by post-mortem changes.

In the cat the entamœbæ enter the tubular glands of the large intestine and make their way to the deepest limits of these glands. Here they multiply and, by pressing on the cells and possibly by excreting some injurious toxic substance, they cause the cells to degenerate and separate. The entamœbæ then push their way between the cells and by means of their pseudopodia burrow in the submucous tissue. Bacteria are admitted and, together with the entamœbæ, bring about the tissue destruction so characteristic of the disease. The entamœbæ enter the blood-vessels, and it is probably by this route in the portal vessels that they reach the liver.

While producing experimental amœbic dysentery in cats by feeding them on material containing the "tetragena" cysts, Darling, in a similar manner, has been able to pass the infection from cat to cat. He has found that after a series of passages the entamœbæ tend to change from the "histolytica" type to the "minuta" type, and that there then appear in the fæces the "tetragena" cysts. He has therefore discovered in cats the same cycle of changes in the characters of the entamœbæ which occur in natural human infections.

Before leaving the subject of the intestinal entamœbæ of man reference must be made to some recent experiments carried out in the Philippine Islands by Walker and Sellards, who have shown conclusively by experiments conducted on men that the encysted forms of the two human entamœbæ are the infective agents, and that one is pathogenic and the other harmless. Of 20 men who ingested Entamœba coli 17 became infected, as proved by their stools, yet none developed the symptoms of dysentery. Of 20 men who ingested Entamœba histolytica (dysenteriæ), 17 became infected after one feeding, while another became infected after three feedings. It was shown that ingestion of encysted forms only led to the appearance of mobile entamœbæ in the stools. In one case ingestion of cysts only led to the appearance of free entamœbæ and, later, encysted forms, and, still later, free entamœbæ again, an alternation repeated several times. Ingestion of free entamœbæ (after neutralisation of the stomach contents) led to the appearance of entamœbæ in the stool. Of the 18 men who became infected with the pathogenic form, 4 developed amœbic dysentery. The incubation periods up to the time of onset of symptoms in the 4 cases were 20, 95, 87, and 57 days respectively. It is interesting to note that these 4 cases were all infected from either "contact" or "convalescent" carriers. The disproportion between the number of men (18) who became infected with the pathogenic entamœbæ and the number of these (4) who actually developed dysentery is worthy of remark in showing how easy it is for an individual to become a "contact" carrier without actually acquiring dysentery itself.[2]

It must be mentioned that upwards of 20 different species of entamœba have been described from the human intestine by various observers. It may very safely be stated that none of these have been sufficiently studied to exclude the possibility of their being other than modified forms or involution forms of one of the two entamœbæ described above. It is true that occasionally amœboid organisms, resembling the free-living amœbæ of the Amœba limax type, are encountered in the intestine, but these must be clearly distinguished from the entamœbæ. They are probably free-living forms which have obtained accidental entrance to the intestine in an encysted condition, and, finding the contents congenial, for some reason or another, have proceeded to grow and multiply there, without in any sense being parasitic and dependent upon the host, as are the true entamœbæ.

PATHOLOGICAL ANATOMY.

The primary lesion of amœbic dysentery is apparently an exudation into the submucous coat of the large intestine, first seen to the naked eye as red, slightly raised spots, not much larger than the head of a pin. When these congested spots grow in area a yellow central point appears, which is the earliest stage of ulceration, due to local necrosis of the mucous membrane. It is rare to see the early stages of ulceration, unless the patient has died from some other disease, but at the post-mortem examination of a case of acute dysentery it is sometimes possible to see all the various stages in the same intestine. The ulcers have a tendency to extend in a circular or ragged form around the bowel and are sharply limited to the large intestine. Another characteristic of amœbic dysentery is that the whole intestine is not uniformly affected, for there remain areas of quite healthy mucous membrane between the thickened and abruptly raised patches of ulceration. In a neglected case of severe amœbic dysentery the thickened intestine can be easily felt through thin abdominal walls. In gangrenous cases the ulceration extends to the serous coat and occasionally causes perforation of the lower bowel and peritonitis.

In at least half the dysenteric necropsies which I have performed or witnessed in Egypt and Turkey the whole of the large intestine has been attacked, with the exception of the heathy areas just mentioned, and in comparatively early cases the lesion was more advanced in the lowest part of the large intestine. Sir Leonard Rogers, after 12 years' experience of more than 100 dysenteric post-mortem examinations in Calcutta, finds that the ulcers are often limited to the upper parts of the

large bowel, the sigmoid and rectum remaining free.

I have the opportunity of showing you pathological specimens of dysentery from different parts of the world, mostly borrowed from the museum of the London School of Tropical Medicine. The following is Professor Symmers's post-mortem note of an Egyptian, aged 30, who died in 1903 in the eighth week of dysentery, after the number of daily evacuations had been reduced from 14 to 4 by enemata of boracic acid and sulphate of copper.

CASE 1.—The whole of the large bowel from anus to ileocæcal valve showed numerous circular ulcers from ¼ to 1 inch in diameter, crateriform in appearance, with elevated and slightly undermined margins of a bright red colour. Most of these ulcers were covered by thick masses of yellowish matter, practically amounting to a false membrane. This dysenteric condition ceased with absolute abruptness at the very commencement of the small bowel, which was normal except for some slight prominence of the solitary lymph follicles.

Such a post-mortem appearance makes the physician despair of attempting any drug treatment, unless it is certainly amœba-cidal.

The microscopical appearances of early amœbic ulcers show a considerable small-celled infiltration of the submucosa, which elevates the mucous membrane to form the raised spots on the inner surface of the bowel. This infiltration consists of leucocytes and amœbæ, which latter have the power of burrowing between the muscular fibres, and so may reach the subserous coat. They may also penetrate the veins and enter the portal system, accounting eventually for inflammation or abscess of the liver.

Half a century ago dysentery used to be one of the chief diseases of Egypt, both among the natives and Europeans. The death-rate from that disease in the European hospital in Alexandria[3] was 16·7 per cent., while Griesinger at Kasr-el-Ainy Hospital in Cairo found 186 cases in 363 necropsies, of which he called 96 primary or idiopathic and 90 secondary. Dysentery is decidedly less common to-day, for the Kasr-el-Ainy statistics during the four years 1910–13 record that there were 11,108 in-patients in the medical wards, of whom 345 had dysentery and 53 of them died. To them we ought, perhaps, to add 233 other cases of bilharzial dysentery, because it is unlikely that they would have been differentiated in Griesinger's time. But after this addition the sum only amounts to 5·2 per cent. of the medical cases admitted to the chief hospital in Egypt.

CLINICAL DESCRIPTION.

Amœbiasis is a convenient name for specific lesions in various parts of the body, intestine, liver, brain, skin near anus, &c., and amœbic colitis has been proposed by Dr. Strong and Sir L. Rogers as a preferable term to amœbic dysentery, because it includes the sporadic mild cases, even when accompanied by constipation, in addition to those characterised by frequent evacuations and the constant presence of tenesmus, blood, and mucus. We now know that amœbic ulceration of the large intestine may continue for months unaccompanied by the classical signs of dysentery, and in such cases only careful and repeated examinations of the fæces will reveal the true nature of the disease. It is therefore important not to overlook this colitis in its latent phase.

The existence of tenesmus, often the symptom forcing the patient to seek medical aid, means that there are lesions in the proximity of the sphincter. If the lesions, on the contrary, either in true dysentery or in bilharzial infection, are limited to the colon, there will be no tenesmus. It is not rare to find a patient in this country who has recently returned from the tropics and is complaining of slight indigestion, constipation, and vague pains in the intestines. On palpation it may be found that there is tenderness over the colon but none over the small intestine. A dose of sulphate of magnesia, followed by a careful microscopical examination of fresh warm fæces by an expert, may reveal the presence of Entamœba histolytica and ensure the correct diagnosis of the malady.

The following case shows that one negative examination by the microscopist, especially in a cool laboratory, must not preclude the possibility of the presence of amœbæ:—

CASE 2.—In 1897 a thin Egyptian, aged 35 years, was transferred from the eye wards to my care in Cairo. Clinically, there was no doubt about the dysentery, and he passed, in the first 24 hours after transference, 27 typical motions. Yet Dr. Ruffer, who personally examined the stools on that day, reported "plenty of pus, no amœbæ." Two days later, when there were 10 motions, he reported "blood-stained liquid stool, containing no fæcal matter, but large quantities of slimy shreds, some of them blood-stained. Microscopically, a few red blood corpuscles and an enormous number of rather small amœbæ with clear protoplasm and vesicular nucleus. Temperature of room 60° F. (Jan. 16th). Amœbæ non-motile at that temperature.

The next day the report stated that amœbæ were present in fairly large numbers, and the fæces were still shreddy and slimy. On Jan. 18th, when the number of daily motions was reduced to eight, the stools were "not fœtid, fluid, with shreds of mucus, some slightly blood-stained. Pure culture of granular amœbæ, nucleus small without nucleoli, protoplasm granular, no movements. Temperature of room 60°." After Jan. 20th he never had more than one or two motions in the 24 hours, and began to put on weight. He was treated throughout, and apparently cured, by large doses of bismuth with tannic acid and opium in small quantities, and this may have been aided by large daily enemata of boracic acid and starch, in which I was then a believer.

The onset of amœbic dysentery is usually sudden and always begins with diarrhœa. Fever is not a marked feature, and when present is never high, so that I agree with the Panama experience that a temperature much above 101° F. usually betokens some complication.[4] The stools vary from day to day in number and in quality and, as I have said, in the presence of amœbæ. No naked-eye examination of fæces can be trusted to determine whether the patient is suffering from amœbic or bacillary dysentery, but I have learnt, partly from experienced hospital sisters, that a shrewd guess can often be made in this direction. For instance, if the mucus is of a deep red blood colour and purulent, not unlike the contents of a liver abscess, it is safe to prophesy that amœbæ will be found. It is impossible to tell by the pain or by the appearance of the patient whether a case is amœbic or bacillary. The pain is intestinal, and is specially great before and during an evacuation. A higher degree of leucocytosis, tenderness over the colon, and thickening of the large intestine are all in favour of the amœbic type. Mild cases, unrecognised as dysentery, or untreated by emetine or ipecacuanha, are those which are liable to develop hepatitis as a complication, or to become chronic, lasting several months, or even a year, and producing anæmia and emaciation. Fayrer tells of cases in his own practice

where Europeans had suffered from relapses of dysentery for 10 or 12 years.

The cause of death in amœbic colitis is generally perforation and peritonitis, succeeding ulceration of the colon or appendix. The most frequent complication is abscess of the liver, and I have seen in Egypt two cases of abscess of the spleen.

IMPORTANCE OF WASHING STOOLS.

Dr. Edward Goodeve (1816–1880), when professor of medicine in Calcutta, used to teach the necessity of watching the stools by carefully washing them and allowing the different parts to separate, so that sloughs and mucus can be distinguished from fæces. "The state of the bowel, the stage of the disease, and the nature of the morbid process may thus be ascertained with much accuracy" (Fayrer, p. 38). Unfortunately, Goodeve never published his observations on dysentery, and this may possibly account for the fact that fæces would seem not to be universally washed when a case of dysentery (or ulcerative colitis) is being treated. I gather that this is not part of the training of a British hospital, for I have seldom found a nurse or a young doctor in or out of hospital who had ever washed a specimen of fæces to look for mucus or worms. I should therefore like to take this opportunity of reiterating the importance of washing dysenteric stools under a tap of cold water, rejecting the top liquid after a minute's delay, and thus continuing the process patiently and slowly until all trace of fæces has disappeared. The mucus or slough which remains, or the whole motion if desired, can be conveniently kept for the doctor's inspection in a large glass Petri dish, as invariably used at the Albert Dock Hospital.

In acute dysentery the earliest evacuations almost completely remove fæculent matter, but not fæculent colouring. The washed stools then consist of rose-coloured mucus of gelatinous consistence. Such may be seen in private practice where the patient summons medical aid within a few hours, but in hospital cases the symptoms have usually been neglected for some days previous to admission.

In a neglected case sloughs are generally passed on the sixth or seventh day. These vary in size up to that of a man's hand. In fair constitutions these sloughs often have much the appearance and consistence of a preserved oyster. They are oval and nearly a sixth of an inch in thickness. They are made up of the whole depth of the mucous membrane, frequently backed with some of the muscular coat, the submucous tissue being largely infiltrated with the products of inflammation.[5]

It is only by washing the stools and inspecting them daily that one can accurately judge how the patient is progressing, and whether it is safe to increase the diet. We are also enabled to see whether the patient has been taking any forbidden article; an English patient on liquid diet once asked me if he might suck some oranges, and two days later I found that his washed stools consisted only of orange pulp which he had swallowed.

(*To be continued*)

DOWN DISTRICT ASYLUM.—The Inspector of Lunacy, in his report of the recent inspection of the Down District Asylum, states that "the admirable condition in which I find the institution is no doubt to be attributed to the careful attention which the committee give to every detail of the management, and to the able manner in which they are supported by Mr. M. J. Nolan, resident medical superintendent, who brings to his work remarkable zeal and efficiency, and spares no pains in the discharge of his onerous duties."

THE PRINCIPLES WHICH GOVERN THE ULTIMATE RESULTS OF HARE-LIP AND CLEFT PALATE OPERATIONS.

BY GEORGE V. I. BROWN, M.D., C.M., F.A.C.S.,
ORAL SURGEON, ST. MARY'S HOSPITAL AND THE CHILDREN'S FREE HOSPITAL, MILWAUKEE.

THE vital issue in the controversy with regard to the surgical treatment of hare-lip and cleft palate that has been waged so earnestly on both sides of the water during recent years, when reduced to first principles and stripped of all confusing differences of surgical operative technique, which are after all of secondary importance, resolves itself into proper discrimination between the following surgical operation methods: (1) Compression (forcing the sides of the bony palate in early infancy); (2) flap reversing operations (Lane, Davies Colley); (3) flaps of bone and muco-periosteum (Ferguson); and (4) muco-periosteal flat sliding operations as in the von Langenbeck-Warren types.

Final results.—The standard of value by which the decision in making selection is to be determined must be the final result. Therefore it is this aspect of our subject that demands earnest attention at this time even to the subordination of all other considerations, for it is obvious that a method is only valuable in proportion to its effectiveness in this respect. Study of the literature pertaining to hare-lip and cleft palate operations reveals a strange confusion concerning the question of the actual results of the methods that the various writers advocate.

Estimation of benefit.—Unquestionably eminent and duly conscientious surgeons have been misled, and thus their statements have been influential in misdirecting the efforts of a large following with more or less ultimate general disappointment, simply because their estimation of the effect of the surgical measures employed and recommended was not sufficiently far-reaching.

Common point of view.—After a somewhat extensive opportunity for observation during the many years that I have practically made this division of practice my life work, and with more or less intimate personal acquaintance with the advocates of some of the different methods of operation for the correction of these defects, I am convinced that there can never be a proper settlement of the vexed problems involved until a common point of view concerning the purposes and influences of the several operative procedures has been established.

For example, if the mere covering of a palate fissure with tissue is to be the standard of success, then all the generally recognised methods must be entitled to appreciation, because this result undoubtedly can be accomplished in a more or less considerable proportion of cases by any of them. If on the other hand effective speech improvement be the determining factor, at once a wide range of distinction must be recognised, the determination of which is dependent upon many modifying factors. Again, if favourable or unfavourable developmental conditions and their influence upon cosmetic effect, general growth, and health, as well as involved nervous states, are to be included with speech improvement, as they certainly ought to be, then the right of each method to continued recognition must stand or fall according to the rating of its effect upon the individual. Since the *raison d'être* for every such operation

depends upon its possibilities in restoring to those who bear the mark of these sad afflictions, speech, increased health, comfort, usefulness and happiness, their measure of surgical effectiveness must be according to all of these considerations and all that their acquirement may involve or supply.

It is at once apparent that in broadening our point of view we have opened up an almost unlimited field for discussion, but, fortunately, the most vital factors in control of these desiderata are inexorably affected by the dependence of post-operative physiologic activities upon the character and nature of the surgical treatment; thus by process of elimination the number of operative methods which may be considered desirable are correspondingly reduced.

The standard of staphylorrhaphy.—The principles which should govern the choice of operation in cleft palate cases may be enumerated as follows: 1. Never correct a deformity by surgical or other forcible means if such defect may be made to correct itself in natural course of development. 2. Never destroy any structure that may be required for the perfection of future developmental processes. 3. Never misplace or so disarrange the form or situation of any tissue in such manner as to impair its future functional usefulness. 4. Never exceed the reparative possibilities of tissue in flap formation by endeavouring to close completely at one operation the palate fissures of cases in which this is inadvisable. 5. Aim to improve, by operation if necessary, such operative conditions as cannot safely be overcome immediately.

Destruction of the premaxilla.—The first two considerations would seem to bar not only the old and already discarded methods by which the premaxilla was removed or partially destroyed, or otherwise forcibly injured in order to facilitate the closure of the lip fissure, but also the plan of treatment by which the sides of the palate fissure are forcibly brought together in early infancy and held in contact by wires and metal plates. Surgeons everywhere have long since learned that lip fissures can be closed without such destruction of the premaxilla and the unavoidable injury or loss of the tooth germs which it encloses—an effect that is unavoidably associated with this treatment. The hideous examples of the deformed mouths and faces that these patients present in later life are only too eloquent in their silent condemnation of this procedure.

Defects of wiring and compressing the maxillary bones.—Compression of the upper maxillæ in early infancy also endangers the developmental processes upon which the future form of the nares, the palate, the upper dental arch, and the face depend. Such compression cannot fail to cause an unnecessary degree of deflection of the nasal septum and a marked narrowing of the nares. Wires employed for retention purposes when passed through the upper maxillæ of an infant inevitably destroy from one to four or more of the developing tooth germs; therefore these teeth do not erupt. Without the eruption of the full number of teeth there cannot be a normally shaped dental arch or palatal vault. It is obvious, then, that with intranasal deformity there must be a tendency to nasal disease, that with arrested maxillary development there cannot be a symmetrical face, and with a contracted palatal vault, as well as an irregular dental arch, the best speech function is impossible. Figs. 1, 2, 15, 17, 19, and 21 show the results of this treatment in these cases, and many similar examples might be shown if necessary to prove that such effects are not uncommon.

Flap reversing operations.—Judged in the light of recognition that physiologic action in the performance of the speech function is necessarily dependent upon the restoration of palate tissues in natural anatomical relation, it would seem that flap-reversing operations for palate fissure closure, by which the muco-periosteum is turned upon itself in such manner as to reverse its normal situation upon one side of the palate in order that it may be laid across the opening and sutured to a similar flap raised but not turned over upon the opposite side, could not give the best results. While this method may, and doubtless often does, simplify the actual difficulty in operative performance, such treatment does not ensure as close an approximation to normal palatal conditions as when these tissues are retained in natural form and the flaps brought together by sliding them toward the centre and taking advantage of the slope of the sides of the palatal arch, as in the von Langenbeck-Warren type of operation. There can be little doubt of the importance of the difference in speech effect that these distinctions presage in surgical selection.

Ferguson operation.—The Ferguson operation, by which bone and muco-periosteal structures are carried together from chisel or saw cuts through the bony palate upon each side, appears to offer the best possible means of adjustment at the central portion of the palate where the hard and soft palates are united. This ought to be most favourable to speech, but the objection to this method lies in the fact that if the bone on either of the flaps should be destroyed by sloughing there could not very well be regeneration of the lost portion of the palate, and the situation of such a case would be practically hopeless. Inasmuch as it is sometimes necessary to perform operations the effect of which shall be constructive rather than complete in very difficult cases, this objection is a serious one.

Von Langenbeck–Warren operation.—The von Langenbeck operation, with certain modifications that have suggested themselves in the course of my work, has given me my best results; but any specific method of performing staphylorrhaphy alone is after all insufficient to meet the demands of these cases.

Systematic treatment.—Only by systematic treatment from the very beginning in infancy can the greatest benefits be conferred upon these individuals. It is the development of a complete system and the perfection of technique rather than new or original operations that I have long believed were most to be desired in the care of these patients. The system that I have adopted and the modifications of the von Langenbeck operation that I employ have been fully described and illustrated in my work "The Surgery of Oral Diseases and Deformities," and may briefly be described as follows.

Adhesive strip across lip.—The adjustment of an adhesive strip from the malar region upon one side across the lip fissure in infant cases to the same region upon the opposite side of the face calls into play the child's muscles which would otherwise increase the deformity, and employs them as an aid in the process of narrowing the fissure and correcting the undue prominence of the premaxilla. This also tends to straighten the deflected triangular nasal cartilage; at the same time better breathing and nourishment-taking are facilitated and the infant usually thrives better.

FIG. 1.

FIG. 2.

FIG. 1.—Boy 9 years old. An attempt was made to close the palate fissure by compression in early infancy. This failed, and many subsequent palate operations by other operators also failed as a result of the first one. I have recently closed the remaining palate opening, but the deformity will be difficult to overcome.

FIG. 2.—Girl 6 years old. An operation to close the palate fissure by compression and wiring in early infancy failed. Several later attempts by other operators also failed. As a result of this early treatment the entire upper palatal arch is lost, a shilling in diameter, and all the teeth were destroyed by the wires.

FIG. 3.

FIG. 4.

FIG. 3.—Infant with hare-lip, but normal palate.

FIG. 4.—Same child as shown in Fig. 3 after the lip fissure has been closed. Continued development may be expected to be normal because the nose and palate were not affected. It is this condition which should be approximated as nearly as possible in the treatment of cases in which the palate is involved.

FIG. 6.

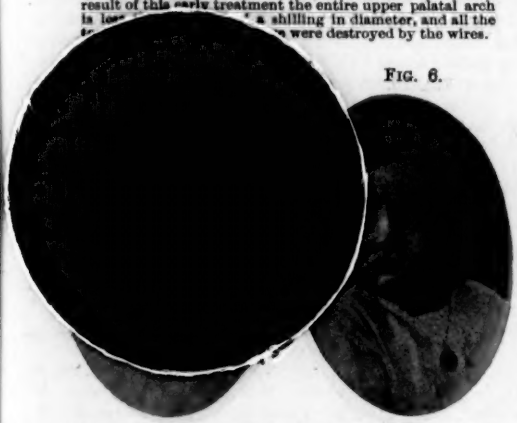

FIG. 5.—Infant with single hare-lip and wide fissure through both hard and soft palates, showing characteristic deformity of nose and mouth.

FIG. 6.—Same baby at 8 months old, after lip and hard palate have been closed as described.

FIG. 7.

FIG. 8.

FIG. 7.—A marked case of double hare-lip and cleft palate.

FIG. 8.—Same baby as shown in Fig. 7 after lip and hard palate have been closed.

FIG. 9.

FIG. 10.

FIG. 9.—Infant with double hare-lip and cleft palate, typical projection of the premaxilla, arrested development of the columns of the nose and philtrum of the lip.

FIG. 10.—Same baby, 18 months old, after operative treatment in accordance with the described method by operation upon the lip at 2 months old, the hard palate at six months, and the soft palate one year later. The tendency to correct development of the nares and the freedom in the roll of the upper lip are important features.

FIG. 11.

FIG. 12.

FIG. 11.—Infant with single hare-lip and cleft palate.

FIG. 12.—Same child at 6 years old. The lip was closed at about 2 months, the hard palate between 5 and 6 months, and the soft palate at 2½ years. The symmetrical development of face, nose, mouth, and jaws at 6 years old seems to prove that this would not have been possible had any growing structures been seriously damaged in the course of the early operations.

FIG. 13.

FIG. 13.—Infant with very wide fissure through lip and hard and soft palates; also marked nasal deformity.

FIG. 14.

FIG. 14.—Same child shown in Fig. 13, at 4 years old, after the lip and palate operations have been completed. The final operation was performed when she was 2 years old. Tendency towards correct development may be noted.

FIG. 15.

FIG. 15.—Infant with double hare-lip and cleft palate. The history of this case before coming to me shows that a few days after birth an attempt was made to close the palate fissure by the use of silver wire and lead plates. The wires sloughed out and there was a general infection, as a result of which the child was in a very critical state for several weeks before recovery.

FIG. 16.

FIG. 16.—The same baby after I have closed the lip and hard palates. It will be seen that it was impossible to get as perfect a result as might have been obtained had the first operation not been performed.

FIG. 17.

FIG. 17.—Picture of a little girl, showing the effect of imperfect early lip and palate operations.

FIG. 18.

FIG. 18.—Same child as shown in Fig. 17, after closure of the palate fissure and re-operation upon the lip and nose.

FIG. 19.

FIG. 19.—Boy 12 years old. Previous history shows that an attempt was made to force the sides of the palate together by the use of wires. This and a series of other operations at various times all failed.

FIG. 20.

FIG. 20.—Same boy as shown in Fig. 19, after both lip and palate have been completely closed.

FIG. 21.

FIG. 21.—Boy 9 years old. Previous history shows that an operation was performed in early infancy in which an endeavour was made to close the palate by the use of wires through the jaws and lead retaining plates. This failed disastrously, and was followed by four other operations with only partial success. The difficulties were enormously increased by the effect of the early infancy operation.

FIG. 22.

FIG. 22.—Same boy as shown in Fig. 21, after lip and nose have been re-constructed and the palate fissure closed by two operations. It was necessary for me to re-adjust the malposed parts and partly close the palate fissure at the first operation, and to complete the closure one year later. Since this picture was taken he has been for several years under treatment by his dentist, who has been endeavouring to bring the malposed teeth into proper alignment.

FIG. 23.

FIG. 23.—Shows the usual tendency to increased deformity that follows when the lip and palate structures have been malposed in early infancy.

FIG. 24.

FIG. 24.—Same man as shown in Fig. 23, after the philtrum of the upper lip and the columna of the nose have been re-adjusted and the associated parts brought forward.

It also becomes accustomed to the restraint and does not fret or fight the sutures so much after the lip operation has been performed. By this treatment one operative step leads to the next in such manner as to reduce its difficulties, and normal post-operative development is facilitated. Figs. 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, and 14, which show pictures of cases in infancy and from 4 to 6 years old, illustrate the actual developmental results of this method.

Operative steps.—The von Langenbeck operation and such modifications of it as I have found most useful may be detailed as follows. Among the most notable features is the absolute control of the field of operation which is afforded by the mouth-gag that I use. This is a Whitehead gag changed to give a better view of the anterior part of the mouth. After paring the fissure borders the muco-periosteal palatal flaps are raised with periosteal elevators of different sizes and bent at different angles, so that the periosteum may be separated from the bone surfaces with the least possible amount of traumatism. Since the slope of the sides of the palate upon each side of the fissure vary in different individuals the direction of the force applied, which is largely governed by the form of the periosteotome, is an important matter. My staphylorrhaphy needles are of different sizes and curves in order to meet the requirements of suture insertion in the anterior, middle, and posterior portions of the palate with the least possible injury to the flap tissue.

One aluminium bronze wire retention suture, with small very thin silver button plates to secure it upon each side, is placed through the central portion of the soft palate. The silver plates are secured by lead shot clamped upon the wire and are so situated as to have the resistance of the thickest part of the muscular tissue of the soft palate. The intervening tissue is less likely to cut and slough if swelling occurs than it would be if included within the loop of a complete suture. The coaptation sutures are of formalised pyoktannin gut. This retains its integrity long enough to permit union to take place, and after that its disappearance is an advantage. There is much difference of opinion with regard to lateral incisions in these cases, and the correct decision in this respect quite naturally depends upon the width of the fissure and the character of tissue involved. But entirely aside from the question of the relief of tension, which is undoubtedly given by liberation of palate tissue in this manner, I am firmly convinced that better speech results are favoured by incisions on each side downward and backward behind the molar teeth, following as nearly as possible the lines of the muscular raphé, and the carrying of the soft palate muscles bodily towards the central line.

Nasal form important.—Next to the form and character of the tissue that may be obtained as a covering for a palatal fissure by urano-staphylorrhaphy, the most important feature is to secure a good nose. Not infrequently in cases in which the speech improvement has been disappointing, although the appearance of the result of the palate closure was all that could be desired, I have found that an unusually large naris or other nasal defect has been largely responsible for this disadvantage. Much benefit has been given these patients by surgically raising the floor of the nose, reducing the defective form of the cartilaginous wing upon the affected side, and such general intra- and extra-nasal reconstruction as seemed to be required to aid this portion of the speech apparatus. The effect of this treatment is often exceedingly gratifying to both operator and subject, and it should receive more general attention than has hitherto been deemed necessary. (Figs. 17, 18, 19, 20, 21, 22, 23, and 24.)

Speech relation of age and operation.—There is much to be said upon both sides of the question as to whether the best speech is obtained by palate closure before the child begins to speak or afterwards when wrong speech habits must be overcome. Theoretically it should always be necessary to have the palate fissure closed before the child begins to talk. Practically this is not always so, and the decision depends upon many modifying factors. In order to be on the safe side I make every effort to provide as perfect a palate as possible at a sufficiently early age to make sure that no adverse speech habits have been acquired. Therefore all operative procedures are completed, if possible, before the child is 2 years old, and preferably at 18 months or even earlier. Nevertheless it is true that some of my best results, as evidenced by freedom from the characteristic cleft palate speech sounds, have been secured with patients whose ages at the time of the palate operation varied from 9 to 60 years, and some of the most imperfect speech results have been with patients that were completed before they were 2 years old. The natural conclusion from this, especially when one considers another class of cases in which there is defective speech of similar character due to imperfect form in development of hard or soft palate, although without any indication of a cleft, is that perfection or imperfection in form is of paramount importance and often a more active factor in determining the speech results after cleft palate operation than the speech habit difficulties which have been hitherto considered of first importance.

Milwaukee, Wisconsin, U.S.A.

CASES OF RECOVERY FROM DETACHMENT OF THE RETINA.

BY CHARLES HIGGENS, F.R.C.S. ENG.,
CONSULTING OPHTHALMIC SURGEON, GUY'S HOSPITAL.

AT a meeting of the Ophthalmological Society in January, 1902, I read notes of a case of recovery from detachment of the retina, and doubts as to the permanence of the cure were expressed by more than one member of the society. I remember that one gentleman said it would be interesting to know what the condition of the eye was in two years. I now republish the case with a further history giving the required information, together with notes of two other cases.

A woman, aged 27 years, first consulted me on Dec. 7th, 1892. She then had a high degree of myopia and large posterior staphylomata in both eyes. Vision: R.E. 6/18 c. $-\frac{2\cdot25\ \text{cyl.}}{12\ \text{sph.}}$; L.E. 6/18 c. $-\frac{2\cdot25\ \text{cyl.}}{13\ \text{sph.}}$ I saw her again on June 23rd, 1894, when the eyes were in the same condition. On August 23rd, 1899, she came with a history of sudden dimness of vision in the left eye, commencing five days previously. She had lost the upper half of the field. There was a large detachment of retina at its lower part, and some vitreous opacity. There was no change in R.E. The patient was ordered to lie down the greater part of the day, and to rub oleate of mercury 10 per cent. into the temple and forehead.

August 30th: There was a good deal of improvement. She could distinguish objects, such as keys, pencils, &c., all over the upper part of the field. Dec. 20th, 1899: L.E. could read J. 14 at 4 inches; field taken by hand movements full all round. May 1st, 1901: Complained of an obscuration in the upper part of the field of the right eye. There was a doubtful history of injury some weeks before. The retina was detached at its periphery below and to the inner side; V. 6/18 corrected. I sent her into Guy's Hospital. On May 2nd she was admitted to hospital. She was ordered to lie down the greater part of the day; to have a vapour bath followed by inunction of 11 drachms of unguentum hydrargyri daily, a mouth wash of chlorate of potash, myrrh, bicarbonate of soda, and borax. On admission, vision, R.E., counted fingers at 12 inches; straight lines appeared wavy, and the ceiling appeared to move in waves. May 13th: Signs of mercurialisation; inunction stopped; vapour baths continued. After bath patient complained that she was almost blind. May 27th: Vapour baths discontinued. June 1st: Patient felt and saw better. Allowed up part of the day. Objects appeared wavy when seen at certain angles. June 10th: Left the hospital seeing better. No note of sight in report, and no field appears to have been taken. She was told to continue lying down the greater part of the day, and not to attempt to use her eyes. No other treatment. June 19th: There was no further change. June 25th: R.E. remained about as it was till June 22nd, when the patient lay down as usual in the afternoon. She went to sleep, and on getting up some hours later found her sight as good as it ever had been before the detachment of the retina occurred, and the bladder, as she called it, which obscured the upper part of the field had disappeared. Ophthalmoscopic examination showed some floating shreds in vitreous and the old posterior staphyloma, but no sign of detachment could be made out.

July 17th: R.V. = 6/36 c. $-\frac{2.25\text{ cyl.}}{11\text{ sph.}}$. Field chart 1.[1] July 31st: R.V. = 6/36 corrected; J. 1 at 8 inches with $\frac{2{\cdot}25\text{ cyl.}}{6\text{ sph.}}$. Field chart 2. August 21st: V. unchanged. Field chart 3. Jan. 23rd, 1902: 6/24 c. $-\frac{2{\cdot}25}{10\text{ sph.}}$; J. 1 at 8 inches c. $-\frac{2{\cdot}25}{6\text{ sph.}}$. Field chart 4: No sign of detachment. Notes were made on Dec. 20th, 1905, May 15th, 1907, and finally Jan. 2nd, 1913. They are practically the same. The last says: R.E. 6/18 c. $-\frac{2{\cdot}25\text{ cyl.}}{10\text{ sph.}}$ No sign of detachment. The left eye, sight of which was lost from retinal detachment commencing in 1899, was somewhat shrunken, soft, lens opaque and calcareous, total posterior synechia, and no perception of light.

The following are notes of two other cases of recovery from retinal detachment, and with the case already mentioned include all I remember having seen.

On April 29th, 1884, a woman, aged 30, consulted me complaining of an opaque spot floating before the right eye. There was a blood clot in the retina about half the size of the optic disc and situated above and rather to the left of it; she was myopic, but there were no choroid changes. On May 6th the clot was less; on June 4th it was reduced to about a quarter of its original size. The right had V. 6/18 with $-\frac{30\text{ cyl.}}{12\text{ sph.}}$. The left 6/12 c. $-\frac{30\text{ cyl.}}{12\text{ sph.}}$ August 12th: The clot had disappeared, but there was floating vitreous opacity and a grey, ill-defined cloud at the lower part of the fundus, probably retinal detachment. Vision unchanged. Ordered mercurial inunction to temple. Eye to be bandaged at night. Atropine drops once a day. Oct. 21st: Retina detached at lower part. Vision: R. 6/24 c. $-\frac{30\text{ cyl.}}{14\text{ sph.}}$; L. 6/12 c. $-\frac{30\text{ cyl.}*}{14\text{ sph.}}$. I did not see the patient again till Jan. 14th, 1897, nearly 13 years. The vision was then exactly the same as at her last visit, but with a rather stronger cylinder. There is no note of the detachment. On April 5th, 1898, the vision of the right eye had improved to 6/18 with correction, otherwise there was no change. I did not see her again till May 23rd, 1911, another interval of 13 years. Vision was then R. 6/6 c. $-\frac{2\text{ cyl.}}{5\text{ sph.}}$; L. 6/6 c. $-\frac{2{\cdot}50\text{ cyl.}}{4\text{ sph.}}$ I remembered about the detachment of the retina and looked carefully for it, but could find no sign of it.

A woman, aged 67, consulted me on August 6th, 1890. Three weeks before—in the left eye—she had noticed bright flashes followed by a cob-web, which soon disappeared and was followed by a dark cloud which appeared in the lower part of the field. Large detachment of retina above and to the outer side corresponding with loss of field. R.E., vision 6/12, c. − 1·25 cyl. axis vert 6/6. Treatment, rest, atropine drops, and iodide. October, 1898: Detachment was now below, began about the diameter of the disc below it. The patient had rested six hours a day for two months. July 23rd, 1902: L., field full. Detachment represented by a few pigment spots and some shreds in the lower part of the vitreous. Vision, 6/60°; R.E., 6/12, c. + 1·25 cyl. axis horizontal 6/9. June 7th, 1904: Left eye large vitreous hæmorrhage. R.E., 6/18, c. − 1·25 cyl. axis 70° 6/9. The blood gradually disappeared. On August 24th, 1904, L. vision 6/36; could read J. 6 at 10 inches c. + 3. On March 25th, 1907, R.E. vision 6/18, c. − 1·25 cyl. 6/9; L.E. 6/36, J. 6 c. + 4. On Sept. 25th, 1911, there was no change.

Remarks.—During the last few years the science of ophthalmology has been advanced by leaps and bounds, but it seems to me that in many ocular affections the treatment, so far as it is effective, is about where it was 30 years ago. The cases under consideration are examples of a disease the treatment of which leaves much to be desired, and so far as results are concerned is no better now than it was many years ago. All operative treatment is in my experience worse than useless. I have never seen a case in any way benefited by any of the operations that have been recommended, but I have seen some which have been made worse. The treatment that seems to me to hold out the best, if only a slight hope of cure, is by rest in the horizontal position continued for weeks, and measures which may be supposed to cause removal of fluids—such as sweating, purgation, absorbents, and abstinence from fluid nourishment as far as it is possible to live without it.

I have reported the cases as recoveries from detachment of the retina, which is a fact; but I have grave doubts as to whether the result was due to the treatment adopted or was merely coincident with it.

Brook-street, W.

[1] Charts not published. * Old system.

PERSISTENT LOW ARTERIAL BLOOD PRESSURE IN CARCINOMA OF THE TONGUE WITH AMYLOID DISEASE.

BY H. D. ROLLESTON, M.D. CANTAB., F.R.C.P. LOND.,
SENIOR PHYSICIAN, ST. GEORGE'S HOSPITAL.

THE following case in which the systolic arterial blood pressure was persistently low (never above 90 and usually under 75 mm. Hg) seems to be worthy of publication.

A male, aged 62 years, an accountant in South Africa, was sent home by charitable friends for radium treatment for inoperable carcinoma of the tongue. The disease had started as a small patch on the left side of the tongue three and a half years previously, and had progressed very rapidly during the preceding year so that speech and swallowing had become increasingly difficult. There was no history of syphilis or of excessive smoking. When admitted to St. George's Hospital on Jan. 30th, 1914, he was thin and bronzed, spoke with difficulty, and could swallow fluid food only. The tongue was extensively involved by carcinoma, the left anterior portion being much eroded and the organ practically fixed. At the back the growth had extended to the left anterior pillar of the fauces and to the soft

palate. The condition was quite inoperable, and it was thought to be useless to employ radium; but in view of his long journey with this object it was obviously advisable to give him the treatment; and from this he appeared to get some temporary relief. There was some slight enlargement of the cervical glands, but these did not increase in size. The heart was normal. There was general bronchitis on admission, but this cleared up, though there were often some rhonchi over the root of the right lung. There was constantly albuminuria associated with œdema of the feet, at first transient and mainly after he had been up, and slight purpura on the hands. The specific gravity of the urine varied from 1002 to 1022. Casts were not found. There was never any fever, relatively little pain, and weight was remarkably maintained. On admission the weight was 7 st. 4 lb. and 4 days before death 7 st. 4½ lb. The liver and spleen were never found to be enlarged. In June œdema of the legs became more prominent and the albuminuria increased. In July there was not much change until the 17th, when he collapsed and was in great pain. The right leg became livid and cold. He died the next day.

At the necropsy, performed by Dr. R. S. Trevor, there was very extensive carcinomatous invasion of the tongue and soft palate, but no secondary growths or gummatous lesions in any part of the body. The inferior vena cava, the right external iliac and the right femoral veins were distended with recent ante-mortem blood-clot. The right leg from the knee downwards was swollen, bright-red in colour, and showed commencing gangrene. The heart, 8 oz., was small and showed brown atrophy. The intestines, kidneys, spleen, and adrenals were amyloid. The liver did not give any amyloid reaction with iodine. Except for the lardaceous change the adrenals appeared healthy.

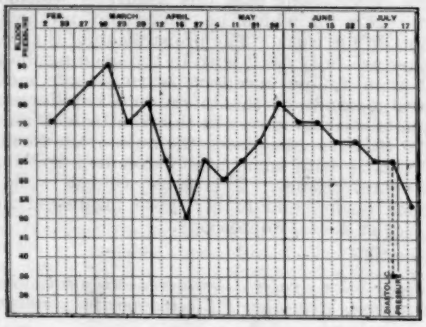

Chart of blood pressure.

Remarks.—The persistent low arterial blood pressure was presumably due to the general asthenia and the amyloid disease, and is unique in my experience, as I have not seen a blood pressure as low as 70 mm. Hg except in cases of advanced Addison's disease and in cardiac failure shortly before death. In otherwise healthy persons during the fever of pneumonia I have seen a systolic blood pressure of 80 mm. Hg. As is shown on the chart, the diastolic blood pressure taken by the auscultatory method on July 7th, ten days before the final collapse, was 35 mm. Hg, with the normal difference of 30 mm. between the systolic and diastolic pressures.

Upper Brook-street, W.

THE PRICE OF DRUGS.—The Pharmaceutical Committee who are advising the Government on the question of the rise in price of various drugs, are holding frequent meetings. The committee consists of Messrs. Edmund White, E. T. Nethercoat, C. A. Hill, John C. Umney, and W. J. U. Woolcock. Information is in the hands of the committee to the effect that the prices of certain drugs are inflated by reason of the action of particular dealers; and recommendations will probably be made that the Government should exercise its powers under the recent Act in order to prevent such inflation.

Clinical Notes:
MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

A CASE OF GANGLION OF RING FINGER.

BY M. C. S. LAWRANCE, M.B., B.CH. VICT.

THE following case may prove of interest to the readers of THE LANCET.

A woman consulted me some months ago for severe pain in the ring finger of her right hand, which commenced at the tip and spread up her arm, and was so severe as to wake her up at night. It would last several hours, and always commenced with a knock or blow of some sort. She had had the trouble for years, but only lately had it become at all acute.

On examining the finger I could find nothing abnormal in its size, but it was very tender to the touch at the extreme tip, and the nail presented a curious appearance, being raised down the middle by a longitudinal ridge exactly like the ridge produced by folding a piece of paper. I suggested removing the nail, and as she was willing I did so under quinine and urea hydrochloride local anæsthesia and found a small ganglion at the very insertion of the extensor tendon. I scraped this out with a small spoon and she has been completely cured. The skin of the finger sloughed rather badly where I had made the injection, but by using scarlet-red ointment she had quite a good scar and complete movement in her finger.

I discovered later that this particular anæsthetic is apt to cause sloughing where the connective tissue is not abundant, and that it would have been better to have used cocaine. It seems to me a very rare condition to find a ganglion in such a position, and also very curious that it should have been the cause of so much suffering.

Earlestown, Lancs.

A FAMILY HISTORY OF POLYDACTYLISM.

BY A. BANKS RAFFLE, M.D. DURH.

THE following family history of polydactylism presents some features of interest.

A woman having an extra finger on each hand married. She had eight children, none of them showing any abnormality of this kind. One of her daughters had 12 children. Of this family the eldest son and the eldest daughter, the first and third children respectively, both showed the same deformity as their grandmother. The son had two boys, both of whom reproduced the abnormality; the daughter had two female children, one of whom had an extra phalanx. None of the collaterals presented anything of the kind.

This case is in marked contrast to the one reported by me some years ago, in which the polydactylism appeared in one generation without any history in the family, the five older children all showing it, whilst the youngest did not. A note on these two cases from some of the profession who make a speciality of these matters would be of interest.

Red Lion-street, W.C.

Reviews and Notices of Books.

Diagnosis in the Office and at the Bedside; the Use of Symptoms and Physical Signs in the Diagnosis of Disease.

By HOBART AMORY HARE, M.D., B.Sc., Professor of Therapeutics, Materia Medica, and Diagnosis in the Jefferson Medical College of Philadelphia. Seventh edition. Thoroughly revised. Illustrated with 165 engravings and 10 plates. London: Henry Kimpton. 1914. Pp. 548. Price 18*s.*

IN the first edition of this work, published in 1896, the author pointed out that his object was to place before the physician and student the subject of medical diagnosis as it is met at the bedside. The symptoms used in diagnosis were therefore first discussed, and their application to determine the character of the disease followed. The present volume has been brought thoroughly up to date.

The plan adopted is a good one for study after a general knowledge of medicine has been acquired. At the beginning of the book a sound warning is given that in attempting to diagnose a case it is essential that the physician should base his opinion not upon one or two symptoms, but upon a series of them, which when properly considered and put together lead to a right conclusion. An opinion based on one sign or symptom can only result in error.

Amongst the more recent subjects discussed is the estimation of arterial tension. The auscultatory method—by listening with a stethoscope over the tracheal artery whilst the movements of the index of the sphygmomanometer are watched with the eye—is strongly recommended. This enables the physician to estimate the diastolic pressure as easily as the systolic, and thus an advantage is gained over the plan usually employed of ascertaining the greatest oscillation of the column of mercury or of the needle, a point which it is not easy accurately to determine.

This manual will be found useful by senior students and by practitioners as an adjunct to the ordinary text-books. It contains a large number of excellent illustrations which add to the value of the letterpress.

Surgical Diseases and Injuries of the Genito-urinary Organs.

By J. W. THOMSON WALKER, M.B., C.M. Edin., F.R.C.S. Eng., Hunterian Professor of Surgery and Pathology, Royal College of Surgeons of England, 1907; Surgeon to the Hampstead General and North-West London Hospitals, &c. With 24 colour and 21 black and white plates and 279 illustrations in the text. London, New York, Toronto, and Melbourne: Cassell and Company, Limited. 1914. Pp. 879. Price 25*s.* net.

WE welcome the appearance of this work, which contains a clear exposition of a section of surgery that has made enormous progress during recent years. It deals with a subject with regard to which many students learn comparatively little during their curriculum, so that it becomes necessary for them to seek for knowledge when in practice. For those who wish to obtain a clear, full, and exact knowledge of the present state of the surgery of the genito-urinary organs no better work can be named. To the student also this book will prove of assistance, enabling him to understand the conditions of any patient suffering from disease of the urinary or genital system whom he may encounter in his hospital work, and it should be of great use in preparing for examinations. The author lays stress on the diagnostic value of the cystoscope and of the X rays, and he demonstrates that the use of collargol injected into the ureters and pelvis of the kidney may furnish us with much information.

A few points in a good book present themselves for criticism. The author does not in most cases indicate very clearly which treatment out of many is in his opinion the best; he describes the various methods that have been employed, but does not indicate which should be chosen. It is always desirable that in works of instruction rather than of theory there should be a certain amount of dogmatism in the advice given, for the student is not in a position to judge between the various methods which are put before him. The number of illustrations is large and they are all good. The coloured plates, especially those showing cystoscopic appearances, are deserving of particular mention.

Dental Microscopy.

By A. HOPEWELL-SMITH. Third edition. With 43 illustrations, eight lithographic plates, and coloured frontispiece. London: John Bale and Danielsson. 1914. Pp. 216. Price 15*s.* net.

THE author is so well known as an expert on dental microscopy that one naturally welcomes a publication in which he gives the methods he adopts in his work. The preparation of the normal tissues are fully dealt with in the opening chapters, and then follow excellent accounts of bacteriological methods, of the injection of capillaries, and of photo-micrography. In the frontispiece and the eight lithographic plates the author has furnished his readers with some neatly executed drawings of the dental tissues. This book we can with confidence recommend to all those interested in the subject of dental microscopy.

Clinique des voies Urinaires—Hôpital Necker. Notions Pratiques d'Electrothérapie appliquée à l'Urologie.

By Dr. COURTADE, of the Clinic of Urinary Diseases at the Hôpital Necker. Paris: F. Gittler. 1914. Pp. 212. Price 10 francs.

THIS is a practical and comprehensive treatise on the suitable methods of electrotherapy in diseases of the urinary system. The first four sections give a useful account of the method of producing the various forms of current and the various physiological effects produced by each. The remaining six sections deal with their application in disease, the pathology of which is sketched out. The action of the application on the diseased condition is well described.

A Manual of Surgical Anatomy.

By CHARLES R. WHITTAKER, F.R.C.S. Edin., F.R.S.E., Senior Demonstrator of Anatomy, Surgeons' Hall, Edinburgh, &c. Second edition, revised and enlarged. With 63 figures in the text. Edinburgh: E. and S. Livingstone. 1914. Pp. 343. Price 6*s.* net.

IN reviewing the first edition of this little book we pointed out one or two instances of careless writing, and we are glad to see that in this issue they are for the most part corrected. There is, however, still a confusion in the topography of the sole of the foot, owing to the author picturing the

dissection with the foot reversed from its normal position.

For the rest the book is greatly improved, and much new matter has been introduced. In particular we are glad to see a description of the neglected recto-urethralis muscle, and a better account of pelvic anatomy generally. There is no doubt that the sphere of utility occupied by the first edition of this work will be far better filled by the present improved edition, which is a thoroughly useful work.

MISCELLANEOUS VOLUMES.

A small *Handbook for Infant Health Workers* (London: John Bale, Sons, and Danielsson, Limited. 1914. Pp. 57. Price 1*s.* 6*d.* net), by Mr. R. MANWOOD H. WALFORD, contains some considerations and instructions that may be commended to health visitors and to intelligent parents. The caution to be on guard against the mother taking drugs when suckling is valuable. The directions for artificial feeding, when such is really necessary, are simple. Not everyone will fully endorse the author's remarks concerning the use of the various forms of condensed milk, though he calls attention to the necessity, after 3 months of age, for taking antiscorbutic precautions in respect thereof, such as grape or orange juice. He applies the same caution to the use of sterilised milk. On pp. 34 and 35 he recommends as a treatment for thrush "to tie up a piece of formalin" in muslin or gauze for the infant to suck. Formalin is a 40 per cent. solution of formaldehyde gas in water. Probably paraform is meant, more especially as that substance is a constituent of the formamint lozenge, which is suggested as an alternative.——A useful little ready reference note-book for nurses is Miss VIOLET YOUNG'S *Outlines of Nursing* (London: The Scientific Press, Limited. 1914. Pp. 32. Price 1*s.* net). It appears to be written, as Miss Margaret Fox, matron of the Prince of Wales's Hospital, points out in the preface, out of a real knowledge of what nurses are likely to need to recall at times when they are unable to refer to larger works—necessary details as to applications, enemata, splints, anæsthetics, surgical asepsis, sterilising, and so forth.——*The Midwives' Pocket-Book*, by HONNOR MORTEN, L.O.S. Diploma (London: The Scientific Press. Pp. 113. Price 1*s.*, revised edition), contains a good deal of useful information for the midwife. It deals with training schools, the C.M.B. examination, the various obstetric positions and the anatomy of the pelvis, and gives rules for conducting a midwifery case.

That books of the "Aids" type for the study of medicine are well esteemed by the medical student is proved by the number of editions to which they attain. The *Aids to Forensic Medicine and Toxicology*, by Dr. WILLIAM MURRELL and Dr. W. G. AITCHISON ROBERTSON, and the *Aids to Dental Anatomy and Physiology*, by Mr. ARTHUR S. UNDERWOOD (London: Baillière, Tindall, and Cox. 1914. Pp. respectively 153 and 136. Price 2*s.* 6*d.* net each), have severally reached their eighth and third editions. As a means of systematising and coördinating knowledge already acquired and of testing the extent of that acquisition they may be helpful; but if relied on as sources of information the result is likely to be pernicious.——A practical little book for candidates for examinations of the Sanitary Inspectors' Examination Board, the Royal Sanitary Institute and the Board of Education examination in hygiene is the *Meat and Food Inspectors' Examinations* (London: The Sanitary Publishing Company, Limtied. 1914. Pp. 160. Price 5*s.* net), which consists of model answers to the questions set by these bodies, by G. T. BILLING and A. H. WALKER. The first edition was favourably reviewed in THE LANCET of July 23rd, 1911. In the second edition now before us much new material has been added or substituted so as to bring the book up to date.——*Tuberculosis: Its Cause, Prevention, and Cure* (New York: Thomas Y. Crowell. 1914. Pp. 326. Price $1.25), by Dr. EDWARD O. OTIS, of Boston, is intended for laymen. It discusses in 16 chapters the prevalence, nature, and cause of the disease, inheritance and immunity, its curability and prevention, with the relation of the crusade and the Government thereto, as well as the workshop as a factor in its dissemination. Useful information is given also in regard to injurious occupations, sanatoria, outdoor sleeping, climate, health resorts in Europe and elsewhere, the importance of notification and isolation, dust, the progress of the crusade in various countries, and other matters.

JOURNALS AND MAGAZINES.

The Philippine Journal of Tropical Medicine, Vol. IX., Nos. 1 and 2.—Number 1 contains eight original articles, the first of which gives an account of some experiments carried out by Dr. M. A. Barber, of the Biological Laboratory, Bureau of Science, Manila, from which he concludes that ordinary red ants are possible carriers of Asiatic cholera infection, since they are omnivorous feeders and will penetrate to any food not properly protected from them. Cockroaches, if they have fed on human cholera discharges, may harbour the vibrics in their intestines, and these organisms may appear in enormous numbers in the insect's fæces at least two days after they have fed, and may occur in smaller numbers as long as 79 hours after ingestion.—Dr. Victor G. Heiser, Director of Health in the Philippines, contributes an interesting paper on the reappearance of plague in the Philippine Islands after an absence of six years.—Mr. William H. Boynton, of the Veterinary Division of the Philippine Bureau of Agriculture, furnishes two articles, one being a preliminary report on some experiments as to the cultivation of the virus of rinderpest *in vitro*, the other giving a description of an atypical case of rinderpest in a caraboa (a species of buffalo).—In conjunction with Mr. Boynton, Dr. A. R. Ward, chief of the Veterinary Department of the Philippine Bureau of Agriculture, and Mr. Frederick W. Wood conducted some experiments on the transmission of rinderpest. The two last-named experts also describe a simultaneous method of inoculating cattle and caraboas with antirinderpest serum from animals which have been recently immunised.—The next two articles deal with entamœbiasis, and are contributed by Dr. David G. Willets, of the Biological Laboratory, Manila, the first treating of intestinal parasitism, particularly of entamœbiasis in patients attending the Philippine General Hospital; the second is a preliminary note on the treatment of entamœbiasis with ipecacuanha, emetine, and neosalvarsan, in patients at the above-named hospital.—Dr. R. B. Gibson, jointly with Isabelo Concepcion, of the Laboratory of Physiology of the Philippines University, supplies an article on nerve degeneration in fowls fed on unhusked rice (palay). As a result of their experiments these experts think that the substitution of "rough rice" for the polished variety cannot be completely protective against beri-beri in all individuals, but they do not mean to say that this substitution has not practically eliminated beri-beri where the change has been carried out; they contend, however, that in view of the accumulated evidence the addition of other foodstuffs to a diet of unpolished rice is essential to meet the normal nutrition required by the body.——The second number of Vol. IX. of the journal is devoted entirely to the report of a joint commission of representatives from the College of Medicine and Surgery, University of the Philippines, the Bureau of Science, and the Bureau of Health, on a sanitary survey of the San José Estate and adjacent properties on Mindoro Island, with special reference to the epidemiology of malaria. The locality has for years had an evil reputation, and to place it in a satisfactory sanitary condition and maintain it subsequently in this state will require much well-directed energy and money. As a specimen of the prevailing local conditions it may be mentioned that all the inhabitants, about 300 in number, of one of the barrios or settlements were found to be "dirty, lazy, and diseased." The children had a spleen index of 98 per cent.; a skin disease index of 100 per cent.; a very high incidence of tuberculosis and intestinal diseases, and an infantile mortality rate that was simply appalling. The reporter on this barrio expresses his firm belief that every man, woman, and child in it is infected with malaria, and that everyone of them without exception has scabies; in most instances there is at least one other skin disease also present. The village is surrounded by swamp marshes and is without drainage, the cost of which would in the circumstances be so great in the opinion of the reporter as to be "unjustifiable."

Journal of Anatomy and Physiology. Conducted by Sir WILLIAM TURNER, K.C.B., Professor ALEX. MACALISTER, Professor ARTHUR THOMSON, Professor ARTHUR KEITH, and Professor ARTHUR ROBINSON. Vol. XLVIII., Part 4. July, 1914. London: Charles Griffin and Company, Limited. Annual subscription 21*s.* post free.—Embryology is well represented in this issue. Work based upon wax plate reconstructions occupies the bulk of the volume. In connexion with this method of reconstruction Professor E. Fawcett describes and figures a new plate roller, the use of which will do away with much of the mess that usually accompanies the preparation of plates.—The very beautiful stereo-microphotographs of the embryos described by Professor J. T. Wilson, of Sydney, in the last number are included here, and the perfection of their reproduction increases the regret that they are isolated from their text.—Mr. N. C. Rutherford has an important and excellently illustrated Contribution to the Embryology of the Forelimb Skeleton, based upon the reconstruction models of human embryos of 20 and 30 mm., and the examination of serial sections of embryos from 8 mm. to 25 mm. The author has taken special technical precautions, and it would be well if all who use the wax plate method would follow his example and state exactly what limitations they had placed upon the reproduction of developing and ill-defined tissues. The subject matter is admirably summed up in the author's conclusions, several of which are highly suggestive.—The subject of The Second Visceral Arch and Groove in the Tubo-Tympanic Region is dealt with by Mr. J. Ernest Frazer. The paper forms a continuation of the other valuable contributions made by the author to the study of the development of the branchial region; and it is well illustrated by drawings of reconstruction models of embryos from 12–50 mm.—Dr. J. K. Milne Dickie describes some excellent reconstructions of the Head End of a 20 mm. Human Embryo. The description is comprehensive and forms a valuable picture of the development attained at this stage.—Normal adult human anatomy is represented by Mr. H. Blakeway's paper on the Anatomy of the Palate. This article is written with a regard to the surgery of the region and is a good account of normal naked-eye anatomy, while the drawings reproduced are everything that can be desired as accurate representations of topographical anatomy.—Dr. Douglas E. Derry gives a detailed description of a case of Parietal Perforation in the Skull of an Ancient Egyptian; the causation of this curious perforation is obscure. The same author also describes a New Mylometer.—Dr. Douglas G. Reid continues his studies of the peritoneal folds, and deals especially with the so-called Jackson's Membrane and the Genito-mesenteric Fold.—Comparative anatomy is represented by the valuable study conducted by Miss Jean Meiklejohn on the Intra-cardiac Ganglia of the Rat's Heart. Although the paper deals only with a description of serial sections of an individual rat's heart, the results have been confirmed by the examination of a very wide series of animals. This number contains the index of Vol. XLVIII.

DONATIONS AND BEQUESTS.—The late Mr. Frederick George Ivey (a partner in the firm of Messrs. Samuel Hanson and Son, London) left £500 to the City of London Lying-in Hospital, and £500 to St. Bartholomew's Hospital, and after a few special bequests left the residue of his property in equal shares to about 30 charitable institutions, including Lord Mayor Treloar's Cripples Hospital and College and Dr. Barnardo's Homes.—The late Mr. James Grimble Groves, Pendleton, formerly M.P. for South Salford, has left legacies *inter alia* to the Salford Royal Hospital, £1000 for the endowment of a bed; to the Pendlebury Hospital for Children, £1000 for the endowment of a cot; and to the Altrincham Provident Hospital and Dispensary, Market-street, Altrincham, £1000 for the maintenance of the cot which he provided there some years ago.—In consideration of the fact that the London Hospital recently admitted 300 wounded soldiers, Mr. J. A. Fielden has contributed £5000 to the hospital.—Mr. George David Richardson, of London, who died at Southend on August 16th, has left £4000 to the City of London Hospital for Diseases of the Chest, £3000 to the London Hospital, £1000 to the Alexandra Hospital for Children with Hip Disease, Bloomsbury, London, £1000 to the Great Northern Hospital, £1000 to the Royal Hospital for Incurables, Putney, £500 to St. Bartholomew's Hospital, and £1000 to the Royal Surgical Aid Society.

BRITISH MEDICAL ASSOCIATION.

EIGHTY-SECOND ANNUAL MEETING AT ABERDEEN.

THE SECTIONS.

PATHOLOGY AND BACTERIOLOGY.

WEDNESDAY, JULY 29TH.

President, Dr. W. S. LAZARUS-BARLOW (London).

The PRESIDENT opened a discussion on

The Action of Radiations on Cells and Fluids.

He pointed out that the action of rays must be considered from two widely contrasting points of view, both having important bearings on clinical medicine. On the one hand, the effect of relatively large quantities of radiations was important owing to the probability that radium (and he included mesothorium and X rays) were destined to play a fundamental part in the treatment of new growths. On the other hand, the effect of minute quantities was important, because a claim had been made for their efficacy and the treatment of certain diseases on balneological lines. He pointed out that owing to the better facilities most of the information available in the Middlesex Cancer Research Laboratory dealt with the effect of relatively large quantities, but the fact that he had found minute quantities of radium in carcinoma tissues and in gall-stones associated with primary carcinoma of the gall-bladder, and further that radium was very widely distributed in nature, he held to be indicative that even quantities so small as one hundred-millionth of a milligramme of radium might play a hitherto unsuspected part in disease and health. He reminded the meeting that the experiments of many authors showed that small doses of radiations were capable of inducing cell stimulation, whereas large doses induced cell degradation and death. He held that these experiments proved that radium might be applied in the work of the bacteriologist, hæmatologist, and the pathologist, whether dealing with the cell in health or the cell in disease, and he also touched upon the utility of radium and radiations to the work of the physiologist or pathological chemist, instancing the disintegrative power on H_2O, and the synthetic power in producing ammonia. He had recently examined the effects of radiations upon normal cells of the rat, notably the dry squamous epithelium of the tail, the moist squamous epithelium within the sphincter ani, and the columnar epithelium of the rectum, by inserting the upper part of a tube containing $RaBr_2$ into the rectum and allowing the lower part to protrude from the anus. He ensured that each of these varieties of epithelial cells should be brought into direct action of a constant series of radiations for a definite length of time. At various times after the rats were killed and examination was made for histological changes. Two distinct varieties of exposure were made: (1) with a tube containing 38 mgr. of radium bromide, and (2) with a tube containing 92 mgr. One series of rats was subjected to 38 mgr. for 30 minutes, another series to 92 mgr. for 13⅓ minutes, and the rats were killed on the first, second, third, seventh, eighth, and ninth days after. From the tables that he had drawn it would appear that after a single exposure with radium the results were different: (*a*) according to the type of epithelial cell under consideration, and (*b*) according to the arrangement of the "quantity X time," factors which went to make up the single application of radium. He showed also that a striking difference occurred in the behaviour of the two varieties of squamous epithelium. The dry squamous cell was seen to be more vulnerable that the moist squamous cell. All these points were determined by the effect of radium in stimulating mitosis. He suggested, however, that differentiations might be made between certain of the life processes of columnar cells, moist squamous cells, and dry squamous cells by means of radium; and that the recognisable histological differences between the types of fibrous tissue designated as subcolumnar (submucous) or subsquamous (subcutaneous) were to be associated with differences in their inflammatory responses to a physical agent. He grouped columnar cells with submucous tissue and squamous cells with subcutaneous tissue as complexes that must necessarily be dealt with in matters of treatment with radium—

e.g., columnar cells, carcinoma, and squamous cell carcinoma), and he deduced from his experiments that in order to produce the maximum injury to epithelial cells and the minimum damage to subepithelial tissues different procedures must be adopted. Indications differed according to the size and situation of the growth; if the growth was small and submucous tissue was in close relation the "time factor" should probably be kept as low as possible, whereas if the growth was large and submucous tissue was relatively at a distance the "quantity factor" should be kept as low as possible, whilst the "time factor" should be raised. In dealing with a total action of radium dose eight times as great as those previously dealt with, he showed that the "time and quantity factors" played the contrasting parts already mentioned. He exposed one rat to 92 mgr. of radium for 108 minutes and another to 38 mgr. for 240 minutes, these doses being identical, considered on the lines of ionisation. The two rats were killed on the ninth day after ionisation, and showed widely different induced changes in the tissues. In the tissues exposed to 92 mgr. for 108 minutes the mucous membrane persisted, though there were inflammatory changes, whereas in the 38 mgr. for 240 minutes specimen the inflammation was such that the mucous membrane in contact with the radium tube and a little beyond had entirely sloughed away. But whereas in the case of the mucous and submucous portion a smaller quantity of radium acting for a greater length of time produced the more profound destructive changes, the exact converse occurred in the cutaneous and subcutaneous portion, where it was seen that the inflammatory reaction and destruction of squamous cells was greater in the case of the rat exposed to the 92 mgr. for 108 minutes. He concluded that undesirable damage was better eliminated by keeping the "quantity factor" of the radium dose high and the "time factor" low in the case of the columnar cell complex, but in the case of the squamous cell complex it was better eliminated by keeping the quantity factor of the radium dose low and the "time factor" high.

Dr. J. O. WAKELIN BARRATT (London) said that the study of radio-activity in relation to living cells raised a large number of extremely interesting biological inquiries, the investigation of some of which involved an extension of the limits of our knowledge of the developmental and functional processes occurring in living cells. The difficulty which was encountered in a large group of investigations was not so much to discover changes in cells as the result of irradiation but to ascertain the significance of such changes as were observed. In the course of his own observations on the effect of various types of radiation upon living cells he had found this difficulty a very real one. An outline of the various types of such changes had already been given in the opening paper; he confined his observations to a very brief reference to a few of the difficulties of investigation which appeared to be, for the moment, the most pressing. Some of the appearances produced by irradiation, which were perhaps the least easy to interpret, were those caused by the formation of darkly staining material, sometimes in relatively abundant amount, in the cell nucleus. At first sight the impression was obtained that this represented paraplastic material, but no conclusive evidence existed that the cell nucleus stored up substances destined for its own use or for that of the body generally, nor was it possible to assign any other structural or functional significance to this darkly staining intranuclear substance. In the cytoplasm changes might occur which were capable of interpretation as evidence of functional disturbance. When such changes, however, were of rapid onset as the result of irradiation another interpretation appeared to be permissible—namely, that the changes in question did not represent a disturbance of function of the cell in the strict sense of the term, but indicated a process following upon death of the cell such as might conceivably be impossible of occurrence during the life of the cell; or it might be that if a similar end result obtained during life the mechanism of its production might be different from that taking place after death of the cell. Thus, in the few cases in which the appearances presented by cells after irradiation appeared capable of interpretation as due to disturbance of cell function, there might arise the difficult problem of ascertaining whether these changes really arose during the life of the cell or only came into being when the cell was no longer living. A further important inquiry was the extent to which acute or subacute changes, following upon irradiation, represented, not functional disturbances or events occurring after cell death, total or partial, but disordered processes of cell growth or indicated disturbance of processes which were incidental to cell reproduction. The consideration of problems of this character was, however, unfortunately as yet, in the absence of fuller knowledge of the nature and significance of developmental and reproductive cell changes, of necessity speculative or conjectural. In this connexion it was of considerable interest to recall the circumstance that in the case of mouse carcinoma the rate of growth of the tumour might be profoundly modified as the result of irradiation. He hoped that, in view of the importance attaching at the present moment to problems of new growth, the above brief survey of some of the difficulties and limitations which attended research into the biological results of exposure of living cells to radiation might be of some slight service by way of indicating a few of the many directions in which investigation was likely to be profitable in the immediate future.

Dr. H. BECKTON (London) stated that while α radiations on the one hand, by their action upon the cells of excised tissues caused diffusion of nuclear chromatin and disappearance of Altmann's granules (Beckton and Russ), β and γ radiations, on the other hand, produced no recognisable histological changes either in excised tissues (whether examined immediately after irradiation or after autolysis for several days subsequent to irradiation) or in small living tadpoles and vorticellæ irradiated to the point of death; and concluded that the marked degenerative changes observed by Morson in the treatment of malignant disease by radium in tubes were dependent upon the intervention of the tissue fluids of the living body.

Mr. A. C. MORSON (London) demonstrated by means of lantern slides some of the different types of malignant growth which were susceptible to irradiation. He also showed the effect of irradiation upon the cancer cell, and pointed out the change which in his opinion must be aimed at so that the patient would derive most benefit from this kind of treatment. His views were based on the experimental work which had been carried out by Russ and Wedd in the laboratories of the Middlesex Hospital, and by Haaland and others in the laboratories of the Imperial Cancer Research Fund, on the immunity produced in normal mice against the growth of cancer by the inoculation of radium-irradiated cancer cells. He was of opinion that the complete destruction of malignant cells within a short space of time by means of radium irradiation did not lead to as satisfactory a result from the clinical standpoint as when the cells were not given an immediate lethal dose, but in some way altered so that they persisted in the body for some months.

Mr. S. RUSS, D.Sc. (London), drew attention to another aspect of radium dosage—namely, if when one type of radiation was used to cause a definite effect on two types of cells and the factor of relative sensibility was found, was this same factor found when they passed to another type of ray? Preliminary observations on these lines indicated that this was not so. He had made a comparison between the cells of Jensen rat sarcoma and staphylococcus pyogenes aureus as regards their susceptibility to the α, β, and γ rays. When submitted to the α rays the cells of the rat sarcoma appeared to be about four times as sensitive as the staphylococci; on passing to the β rays this factor was about 6, and with the γ rays was reduced to about 12.

Dr. C. PRICE-JONES (London) and Dr. J. C. MOTTRAM (London) had made observations on the influence of radium on *in vitro* cultures of mouse carcinoma and rat carcinoma. They distinguished between the spread of tissue at the periphery which could occur in normal non-radiated tissues and the actual increase in mitosis. They decided that growth of *in vitro* cultures consisted of two processes—(*a*) spreading of area of the original mass by extrusion of cells, and (*b*) division of cells by mitosis, and concluded further that spreading might occur quite independently of mitosis. Also that the spreading was uninfluenced by β and γ radiations, but mitosis was profoundly influenced. They thought also that an increase in superficial area in an *in vitro* culture must not necessarily be regarded as growth in the sense of a multiplication of cells by mitosis.

Dr. J. F. GASKELL (London) referred to some experiments made years ago on the development of hens' eggs under a

daily dosage of X rays. These experiments tended to show that any radiation first caused a stimulation, then a diminution, finally followed by a compensatory stimulation.

The PRESIDENT, in his reply, pointed out that it was beginning to be clear that the effects of the α, β, and γ rays on tissue cells were different. He agreed with Dr. Gaskell that stimulation occurred with small doses, retardation with large doses, but much depended on the type of cell. On ascaris ova the result was first stimulation, followed by retardation, and after a time followed by a compensatory over-production. Concerning the introduction of radio-active substance in the body fluids, he emphasised the danger of dealing in a way with these emanations, and commented on the boldness of the clinical therapist as compared with the experimental workers.

Dr. C. BROWNING (London) opened a discussion on

Biochemistry of Immunity Reactions.

He gave a general survey of our present knowledge of the subject, recognising the impossibility of covering anything like the whole ground satisfactorily in the time at his disposal. He preferred to use the term "antibody reaction" to immunity reaction, because whether immunity or hypersusceptibility phenomena followed, such reactions *in vivo* might depend on quantitative conditions purely. He pointed out that the results of immunity reactions were in general specific, but the characteristic feature was the fact that the antiserum which brought about the reaction acted only along with the specific antigen, and differed from other sera in that respect alone. Though antigens in constitution were generally foreign proteins, the substances which, according to Abderhalden, stimulated antagonistic ferments included such simple bodies as saccharose, and formed a group distinct from other antigens. He pointed out that the evidence was opposed to the view that isolated lipoids present in protein might affect the antigenic power of the latter. He drew a comparison between normal nutrition and the production of antibodies, and showed that there was no resemblance between them, since in normal nutrition no foreign protein could pass through the intestinal epithelium. The study of the interaction of antigens with antibodies was complicated by the fact that these bodies had never been isolated, but reacted in a complicated mixture of colloids, &c. Discussing specificity, which he described as the prime characteristic of antibody reactions, he pointed out that it could not be explained by such a physical process as adsorption, and, indeed, at times was extremely restricted, as, for example, in the agglutination of particular strains of B. coli, but, on the other hand, a complement deviation test carried out with the same antiserum showed wide group relationships. He pointed out further that chemically altered proteins—e.g., acetylated serum—generated antibodies which reacted only with this compound; species-specificity thereby being lost, and further, that the serum of an animal gave rise to antibodies distinct from those generated by its tissues. No efficient substitute for an antibody had yet been discovered, though colloidal silicic acid could cause hæmolysis together with complement. Discussing complement, it was evident that a true artificial complement had not been produced, nor was there any evidence of its lipoid nature. He held that Abderhalden's reaction still required much investigation. Experiments with hæmolytic sera showed that the production of diffusible ninhydrin reacting bodies did not run parallel with other antibody effects such as hæmolysis—e.g., rabbit serum acting on egg-white caused a positive ninhydrin reaction, which was not intensified 7 to 10 days after an immunising dose of egg-white. The production of positive reactions when serum was placed in contact with inorganic substances, such as glasswool, necessitated caution in diagnosing derangement of function of organs by this test.

Dr. F. H. THIELE and Dr. D. EMBLETON (London) brought forward evidence that complement was really a ferment, and held that the whole idea of its acting quantitatively and combining with antigen must be given up. They said that this idea arose simply from the method of estimating its minimal dose. Its activity depended solely on its concentration. If its activity were estimated carefully it was found to act exactly like an enzyme and to follow the laws of unimolecular reaction. The amboceptor acted quantitatively and was evolved from the complement. Its action was that of a sensitiser and determinant of complement reaction. The toxicity of bacteria was due to the action of the ferments of the tissues of the infected host on the invading bacteria. There was no such thing as true primary toxic endotoxin. On careful examination of clinical material, it was seen that there was no true specificity of bacteria, and they had conclusively proved that in the serum of animals, dying from any kind of bacterial infection whatsoever, the same toxic substance could be demonstrated. This toxic substance was derived from the bacterial protein by proteolytic degradation. The pathogenicity of bacteria depended on the fermentative activity of the tissues of the infected animal to the invading bacteria, and by altering the balance any non-pathogenetic bacterium could be made pathogenic or *vice versâ*. The authors finally discussed the evolution of immunity and showed that it was a gradual process whereby the disharmonious protein was finally acted on in the same way as the protein pabulum of the animal—that is, that the animal had become educated to deal with disharmonious protein as if it were harmonious.

Mr. R. L. MACKENZIE WALLIS (London) dealt with the production of the so-called "protective ferments" of Abderhalden and their relation to immunity. He called attention to the various observations upon which the claims of Abderhalden were based. The results obtained by various observers, including the speaker, in pregnancy and various pathological conditions were detailed, and the bulk of the evidence pointed to the value of the two tests—viz., the polarimeter and the dialysation test—in differential diagnosis. Not only was the principle of value in diagnosis, but it opened up new fields for research. The importance of the tests in the study of the toxæmias of pregnancy was illustrated by reference to some results of the speaker. In conclusion, a new method of isolating the active substance was given which tended to show that the methods of Abderhalden would be more easily applicable.

Major A. G. MCKENDRICK dealt with the action of the compound lysins. A record of an experiment on the action of human serum on horse cells was shown in the form of a chart. The system of coördinates were percentages of amboceptor and complement, and contour lines were drawn through points at which the degree of lysis was constant. He pointed out in the first place that the phenomenon of complement diversion (Neisser and Wechsburg) was present in series of observations in which the ratio of amboceptor to complement was constant, as, for example, in a series prepared by diluting an unheated serum by various proportions of salt solution. This observation controverted the explanation given by Neisser and Wechsburg, and accepted by Ehrlich, and also the theory put forward by Arrhenius, who held that the phenomenon was only apparent when amboceptor was in excess of complement. He pointed out in the second place that the contour lines were continuous, and showed no sign of a limit such as would be required by theories based on the idea of saturation of receptors. As none of the theories at present in vogue agreed with the facts, he had investigated the curves geometrically. A formula had been obtained from which these contour lines could be easily calculated, but which did not at present yield a physico-chemical interpretation. He thought that this difficulty might be due to the fact that in all his experiments he had used a constant quantity of red cells, whereas the phenomenon without doubt depended on the ratio of amboceptor to antigen. The formula had this advantage and use, that it satisfied the two conditions which he emphasised: (1) that the contour lines of equal lysis were continuous into the region of diversion, and (2) that "diversion" might be observed in series of observations with diluted sera in which the ratio of amboceptor to complement was constant.

THURSDAY, JULY 30TH.

A joint session of the Sections of Pathology, Bacteriology and Pharmacology, and Therapeutics was held.

Dr. THOMAS LEWIS (London) opened a discussion on

The Pathology of Heart Function.

He confined his remarks to those curious disorders of the heart's action which were disturbances of the regular sequence of chamber contraction. He pointed out that it was now recognised that the action of the human heart might be disturbed by sinus arrhythmia, heart-block, extrasystole, simple paroxysms of tachycardia, auricular flutter,

auricular fibrillation, and alternation of the ventricle, and accepting this as the foundation for discussion he held that the analysis of disordered heart action had ended, except for a few of the rarest and least important disturbances. The second stage of inquiry was concerned with a search for the causes of the named disorders. He discussed the doctrines of Engelmann's school and compared them with those of Gaskell; he laid stress on the consideration that valuable as was the knowledge of the amphibian and reptilian heart, and guiding us to a truer appreciation of the more fully developed organ, we should never forget that our real business was with the mammalian heart, and that the basis of pathological argument should be a basis of mammalian anatomy and physiology. He then discussed the question of heart function in its relation to disordered heart beat, and put forth the thesis that we had no direct knowledge of disordered "rhythmicity," or disordered "conductivity," &c., in the human heart, using these terms in their special senses, and that Wenckebach's classification of irregularities of the heart, based as it was upon Engelmann's hypothesis, rested upon an insufficiently secure foundation. He pointed out that the functional hypothesis had been responsible for many misconceptions, whereas Gaskell's argument, pointing as it did to specific regions of the heart, gave a safer direction, yet he questioned whether a purely physiological or purely anatomical basis could serve us in the end. After putting forward the view that it was only safe to discuss the pathology on a basis of physiological fact rather than on a basis of physiological hypothesis, he proceeded to discuss some separate disorders of cardiac mechanism, and first dealt with the auriculo-ventricular heart-block. He had no doubt in his own mind that the sequence of the contractions of auricle and ventricle were wholly and normally maintained through the medium of the auriculo-ventricular bundle, and that structural damage, which completely broke this slender tract, was responsible for a number of instances of complete dissociation. Experimental heart-block, he pointed out, could be obtained in one of three different ways: (1) by direct interference with the conducting tracts; (2) by stimulation of the vagus nerve, directly or indirectly; and (3) by the introduction of poisons into, or by altering the metabolites of the circulating blood; and showed that heart-block could be, and was, induced in the human subject by similar disturbances, such as calcareous or gummatous mass invading the tract, or by pressure of the vagus, or in asphyxia when the heart was dying; but it was a moot point whether a long-continued heart-block of high grade could be produced in the human subject by purely nervous or purely chemical influences. Consequently he felt that persistent heart-block of high grade was invariably the result of a local tissue damage, or that there was some cause of heart-block with which we were as yet totally unacquainted. On the other hand, temporary heart-block was to be explained on the grounds of nervous influence or chemical change. In some instances all the evidence supported the conclusion that heart-block produced in one of the three named ways was induced by change in the junctional tissue. He did not think that the suggestion that heart-block could come from a deficiency in the ventricle or inability of this chamber to respond to impulses sent to it by the auricle would be entertained, but that the cause was always to be sought for in the connecting strands. This was supported by his electrocardiographic work. Consequently he put forward for discussion the view that auriculo-ventricular heart-block was conditioned by interference, be it through direct, nervous, or chemical channels, with the auriculo-ventricular conducting system, and especially with the auriculo-ventricular node and bundle. He next dealt with premature contractions and allied disorders of the heart's rhythm, such as paroxysmal tachycardia, auricular flutter, and fibrillation. He held that there was no essential distinction differentiating the run of two or more extrasystoles from a paroxysm of tachycardia which might last for many hours, but that there was clear ground for the belief that the essential influence, which produced the one or the other, was the same, though perhaps exerted in different degree. Clinical and experimental evidence showed the same want of definite boundary between the paroxysmal tachycardia and auricular flutter, here the distinction being chiefly one of heart-rate passing through all gradations. The same conclusion he then applied to paroxysmal tachycardia or flutter and the more complex conditions called fibrillation. He argued from all these facts that all the disturbances of the heart's action, at present under consideration, had the same essential pathology, whose simplest expression was the solitary premature contraction. He said that the key of the most important problems of cardiac pathology would be found when the cause of the solitary extrasystole was discovered. He then passed on to consider the cause of extrasystoles occurring in disease, and to the cause of allied disorders, and confined himself to (1) the relation between the extrasystolic beat and the physiological beat; and (2) the relation of nervous impulses to the extrasystolic contraction. He held that there were clear distinctions between the extrasystolic and the physiological beat, and in his argument he brought forward the following points: (1) The most remarkable character of the extrasystole was its prematurity; (2) the absence of rhythmic tendency; (3) those influences which prompted spontaneous rhythms did not necessarily promote premature contractions; (4) a reaction to the heart nerves was different in the two cases, especially with regard to the vagus; (5) the naturally rhythmic centres were not the centres from which extrasystoles commonly arose; and (6) the physiological rhythm was fastest when propagated from tissue which lay nearest to the superior cava. These arguments supported his proposition that certain of the preparatory processes which preceded the normal contraction on the one hand and the extrasystolic contraction on the other were essentially different, and that those which preceded the latter were of a kind foreign to the physiological heart. He then discussed the various views concerning the rôle of the heart nerves in causing extrasystoles, and summed up with a conclusion that it had not yet been shown that simple interference with the nerves of the heart was alone sufficient to induce any of these disorders as grew to be regarded as of extrasystolic origin. He held that it had not yet been shown that abnormal nerve impulses playing upon a normal heart might be responsible for extrasystoles from the higher types of disorders, but that it had been shown that nervous impulses playing upon a supersensitive or irritable organ could provoke those curious contractions. He then discussed the experiments of Rothberger and Winterberg and those of Goodman Levy. Given certain conditions, sympathetic influences enhanced the pre-existing tendency to extrasystolic treatment and pointed primarily to a disturbance of the heart and not abnormality of the nervous system, and clinical and pathological evidence supported this view.

Sir JAMES BARR (Liverpool) doubted everything that had been done in recent years by the cardiologists, and spent a long time in disparaging the scientific work that had been done from Gaskell's time up to the present. Because every point in the research had not been satisfactorily elucidated, as had already been explained by Dr. Lewis, he refused to accept the definite knowledge that had already proved of such value in its application to clinical work. He made such wild statements as "A good many heart specialists in his time were nearly all dead from heart disease or cerebral softening, possibly because they had taken their own physic." Whilst continuing throughout with his destructive criticism, he found time to elaborate the theory which ascribed excitability to the presence of various chemical products, though it was necessary to quote, in support, other workers in whom he appeared to have almost as much confidence as in himself. To the lime salts especially he attributed effective muscular contraction, and quoted the work of Sidney Ringer and Blair Bell to show the activity of calcium ions. Then he discussed the circulation in general, and advised heart specialists to leave the heart alone and devote their attention to the circulation in the arterioles and capillaries. He then discussed and propounded an elaborate formula for determining the velocity of the blood, and ended by insisting upon the fact that he, with a stop-watch, could calculate the velocity of the blood in the capillaries and veins, and that electrocardiographs or other elaborate appliances were not needed except to impress the patient with the doctor's importance.

Dr. IVY MACKENZIE (Glasgow) associated himself with Dr. Lewis in the opinion that such abstract terms as rhythmicity, irritability, conductivity, &c., should be abolished from the nomenclature of cardiac pathology. He emphasised the necessity of recognising the causes of

cardiac failure which were operative outside the heart. Chief among these, he said, were the causes of high blood pressure due to increased arterial and cardiac tonus, as well as those causes of cardiac failure due to affections of the lungs and chest wall. He stated that it was only a proportion of cases of cardiac failure in which interference with the regulation produced the cardiac failure.

Professor J. A. MACWILLIAM (Aberdeen) said that while the normal heart beat could be shown to issue from the vicinity of the sino-auricular node there was no certain proof that the rhythm actually originated in the specialised or primitive muscular fibres of the node. The linking functions of the nodal structures as mediating between the cardiac nerves and the cardiac muscle were important. Excitability of the cardiac muscle to induction shocks did not necessarily run parallel to the development of spontaneous beats or to responsiveness to physiological contraction impulses arriving from other parts. There was no experimental support to the idea that failure in ventricular sequence might result from a depression of ventricular excitability. He stated that in the condition of fibrillation, alterations in conductivity were in question as well as an exaggeration of irritability—i.e., of that condition which led to the exhibition of premature contractions in various grades. No explanation had as yet been available as to the beneficial effects in many cases of the conversion of persistent auricular flutter into the graver functional disorganisation of working of the cardiac muscle known as fibrillation. Auricular flutter might under experimental conditions be sometimes excited by nervous influences—e.g., removal of vagus control, vagus stimulation under certain abnormal conditions (perfusion with saline fluid containing foreign blood, &c.).

Dr. W. T. RITCHIE (Edinburgh) submitted that the conception of the cardiac irregularities held by Wenckebach had advanced our knowledge very materially, and that the time had not yet come to discard Wenckebach's hypotheses. The evidence hitherto brought forward to disprove the functional importance of the auriculo-ventricular bundle as the sole pathway for the conduction of stimuli to the ventricles was not conclusive. In regard to auricular fibrillation, this disorder was probably in part a result of defective conductivity. Further investigation was required regarding the histological features of hearts which during life had been investigated by modern methods.

Dr. A. GOODMAN LEVY (London) said that the occasional ventricular extrasystole occurring in otherwise normal hearts had been regarded as of no pathological significance; whilst generally true, this view should not be invariably adopted. He stated that we must be prepared to find various toxæmic conditions favouring extrasystolic beats which might be only simple manifestations of the more distressing ventricular tachycardias and leading through them, on occasion, to ventricular fibrillation and sudden death. Chloroform in small doses and barium salts might be instanced as such toxic agents, and they presented a similarity in rendering the ventricles "irritable" and liable to exhibit premature contractions when stimulated in certain definite ways. Deaths occurred from the use of adrenalin under chloroform, and ventricular fibrillation was the cause of death under chloroform in general, and that we might look for an extension of this group of irritants, not only among drugs, but likewise in some toxic substances of body origin. The simple extrasystoles which resulted from raising the blood pressure might be regarded as symptomatic and of no important significance, for they did not tend to pass into more prolonged sequences.

Dr. T. W. GRIFFITH (Leeds) commented upon the influence of atropine and nitrite of amyl on the two cardiac functions of rhythmicity and conductivity respectively. In several cases of partial heart block the injection of one-fiftieth of a grain of atropine was followed in a few minutes by the unexpected result that the auricular rate per minute was diminished. This, however, in a few minutes more was followed by an increase in the auricular rate, which went up from about 70 to over 100. The condition of partial heart block disappeared a few minutes after the injection. During the phase of slow auricular action this might, of course, be attributed to the lessened demand made upon the conductive functions of the junctional tissues, but as it persisted during the phase of rapid auricular action it was clear that conductivity was imposed by the action of the drug. Furthermore, as the manifestations of heart block began to reappear while the auricular rate still remained high, it was clear that atropine acted upon the two functions referred to separately. In regard to nitrite of amyl it was also noticed that the heart block which had been abolished by the drug began to return before the rapidly acting auricle showed any diminution in its rate. He referred to a case of complete heart block which had lasted for a considerable time, which suddenly changed to a two-to-one heart block, and finally disappeared completely without this having been produced by the use of any drug, as an answer to one of Dr. Lewis's statements. In another case of partial heart block the condition of auricular flutter had on two occasions manifested itself for a short period, and had disappeared without the use of any drug.

Dr. F. W. PRICE (London) said that the essential cause of heart failure lay in the cardiac muscle, one or more of its fundamental functions being impaired. Valvular defects, diseased conditions of the blood-vessels, and disturbances of the cardiac rhythm—such as auricular fibrillation—might be considered from two points of view—namely, (1) was the lesion or abnormal rhythm indicative of some myocardial affection? and (2) what effect did it have upon the heart's action? The belief was practically universal that sinus irregularities were of no pathological significance. In his opinion, when extrasystoles were considered by themselves, there was no evidence for supposing that they were either indicative of an impaired heart or that they added to the gravity of any existing morbid condition. Pulsus alternans, when not associated with abnormal cardiac rhythm, was an indication of extreme exhaustion of the heart muscle, and when the condition was continuous death usually followed within a few months, or at most in a few years. Auricular fibrillation was, in the vast majority of cases, indicative of some myocardial affection; and, further, the change in the heart's action was such that as a rule a marked effect on the cardiac efficiency resulted. He stated that Mackenzie had pointed out that in the consideration of the integrity of the myocardium the most important question of all was the efficiency of the working power of the heart, and that the best method of testing this was to see how the heart responded to effort. He put forward the view that rest was of comparatively greater value in cases in which auricular fibrillation was absent than in cases in which it was present, and further, that digitalis was of comparatively little value in the vast majority of the former group of cases—apart from those exceptional cases in which auricular fibrillation developed during the administration of the drug. In cases of auricular fibrillation accompanied by a rapid pulse it was of the utmost importance to continue the administration of the drug in doses which suited the patient best.

FRIDAY, JULY 31ST.

Dr. W. J. PENFOLD (London) opened a discussion on

The Variability of Bacteria,

and showed that not only the fermentation appeared but also that the culture and serum reaction were subject to variation. He said that variation and selection had been shown to grow in the blood in the course of infection, and in the laboratory the precise features in the environment effecting the selection had been individually examined. He brought forward evidence to show that the facts so far established affected (*a*) bacterial classification, and (*b*) the recognition of bacteria; standards adopted by the pathologist and clinical bacteriologist, and also the vaccinists whether engaged in immunising patients or in producing systems for a passive immunisation.

Dr. M. C. W. YOUNG (Edinburgh) then demonstrated some specimens which she had on exhibition in the museum illustrating the possibility of artificially modifying a particular type of bacterium and attempted to explain how these modifications were induced. Her object was to bring out the fact that bacterium of any particular type formed merely one stage in a most complicated life-history, part of this history being protozoal in character. Her object was to draw attention only to the protozoal stages which presented themselves either in culture or in artificial media, or in natural serum or pleuritic fluid. She claimed to have demonstrated the existence in apparently sterile fluids of a protist material and a large and well-defined sporoblast in which there developed a bacterium-like body which passed in its natural surroundings back to the

protozoal stages of the cycle, unless the media were exhausted, under which conditions aerobically it grew as a bacillus of the subtilis or mesentericus type. In serum or pleuritic effusions observed by the dark ground illuminator she had frequently found roundish amœbulæ-like bodies which could be observed to develop into bacilli of the subtilis type. Similarly she had seen arising from sporoblasts staphylococci and streptococci. She had experimented with numerous types of bacteria, and each one had been transformed into the subtilis type with more or less ease. She had used as media broths of various alkalinity made by adding varying quantities of a 5 per cent. solution of sodium hydrate to ordinary peptone broth. On certain media she had observed non-motile forms to pass spontaneously into motile forms. She had experimented with anthrax bacillus and obtained four apparently different staphylococci. She showed a pink staphylococcus which could be transformed directly into a bacterium on certain media, especially on glucose agar; a subcultivation of this on glucose resulted in the death of the bacillus, but from the culture a coccus could be obtained. She also dealt with her experiments with the tubercle bacillus of various types, and had obtained marked differences by heating the spores which she claimed to have been derived from the tubercle bacilli. From the human and bovine bacilli she had also obtained a yeast and torula. All her cultures and illustrations were exhibited in the museum.

The PRESIDENT called attention to the fact that minute quantities of radium might exist in normal tissues, and he had found experimentally that ordinary laboratory broth sometimes contained an appreciable amount of the element. In view of the pronounced agglutination that Russ and Chambers noted in the cultures of B. diphtheria exposed to radium emanation, the speaker thought the possible effect of variations in the radium content of the culture medium in bringing about some of the bacterial variability ought to be borne in mind.

Dr. E. C. HORT (London) drew attention to the necessity for abandoning artificial media for the preparation of vaccines for purposes of treatment. He said the great point was to approximate as near as possible to the natural media of the body in order to imitate the natural processes of cure of infections. For this purpose Dr. Hort and Dr. Ingram had used, in numerous diseases, whole normal human blood as medium of growth and the results had been full of encouragement.

Dr. CROFTON instanced variations in acne bacillus and leprosy bacillus. He emphasised the importance of autogenous vaccine owing to greatest variation of all—viz., in toxicity—and the necessity of using fresh human blood in cultures.

Dr. WILSON mentioned some cases of bacterial variation coming under his observation. In examining the fermentative characters of strains of B. coli isolated from the urine in cases of cystitis and pyelitis he had found a number of colon bacilli which in most cases were unable to form gas from sugars and alcohols, but a few of them were able to produce gas from alcohols but not from sugars. These "anaerogenes" strains occurring naturally were very similar to strains produced artificially by Penfold by giving B. coli on sodium monochloracetate media. He had also observed a B. coli which was able to ferment lactose at room temperature, but which had no action on the sugar at body temperature. As regards morphological alterations he had observed that the streptococcus fecalis when grown on the Drigalski-Conradi medium attained a very large size and became distinctly ovoid in shape. Some experiments showed that this alteration was due to the action of the lactose and crystal violet in the medium. Recently he had isolated a bacillus of the proteus group from a subcutaneous abscess. This micro-organism grew profusely at 37° C., and had the usual morphological and staining characters. When grown at 39° C. the growth was scanty and the culture when stained by Neisser's method showed very well-marked metachromatic granules. This bacillus was Gram-negative and was in no way related to the B. diphtheriæ, yet the appearance of the films was indistinguishable from that prepared with the Klebs-Löffler bacillus. He said that in an outbreak of cerebro-spinal fever in Belfast in 1907–08, out of some 70 strains examined all except five fermented maltose and glucose, but a few failed to ferment both the sugars. In other respects the cocci resembled the diplococcus of Weichselbaum. At the same time Houston and Rankin showed that the opsonins for the cocci isolated from cerebro-spinal fever had little effect on cocci obtained from cases of posterior basic meningitis. In the course of time the meningococci suddenly acquired the character of readily absorbing opsonin and agglutinin from a normal serum, whereas at the start it required a specific serum to produce an opsonic or agglutinative effect.

Dr. C. H. BENHAM (Hove) said that the bacteriologist had this advantage over other observers in that he was able to watch the process of evolution in miniature; the rapidity with which micro-organisms subdivided, as shown by the researches of Dr. Thiele, was so great that it was easy to understand how rapidly these extraordinary variations in type could occur. If the discussion had no other result he hoped that it would lead bacteriologists to pay greater attention to the nature of the medium on which their strains were grown, and he suggested to bacteriologists the desirability of trying their strains of bacteria on media prepared in other laboratories as well as their own, in order to see whether they had the same characteristics under these circumstances. From the point of view of immunisation the discussion certainly emphasised the need for the use of media which approximated as nearly as possible to the tissues of the human body, and also the necessity for using the first subculture for immunising purposes, a point which had been known by vaccine therapists as a rule of thumb for some years. The observations of both Dr. Penfold and Dr. Young were of such importance that he hoped their papers would be read by bacteriologists throughout the world.

Dr. J. H. TEACHER (Glasgow) described variation in a diphtheroid organism, the original cultures of which were obtained from the uteri or placenta of guinea-pigs which had aborted. He said that the first cultures, whether on agar or serum agar, were quite characteristic to naked-eye and microscopical examination. The culture looked like diphtheria, but by the second day the colonies spread out in delicate crenated margins with white painted centres. They were discrete and hard and rubbed off solidly from the agar, breaking up with difficulty. The bacilli were like B. diphtheriæ but more septate, and on staining by Neisser's method they were less abundantly beaded. In subculture some of the cultures remained fairly constant, but in the majority the colonies lost their sharply defined characters and hardness, the result being a diffuse soft "mucousy" growth. The organisms might be coliform or even coccoid in character, but on inoculation of guinea-pigs the original characters constantly reappeared. In the first culture this process had been observed repeatedly in experiments extending over many months.

Dr. E. C. HORT (London) and Dr. W. W. INGRAM (Dufftown) communicated a paper on

The Recognition of Hæmic Infections of the Urine (its Clinical and Experimental Value).

They said that it was a familiar experience that attempts at blood culture frequently failed even in cases that, owing to the presence of continued fever, were almost certainly suffering from an invasion of the blood stream by pathogenic organisms. Bacteriological examination of the blood in these cases was, in fact, so uncertain in its results that both clinicians and experimentalists were seriously hampered in their work. Clinicians, because they were often at a loss for a diagnosis in diseases where the causal organisms were well known; experimentalists, because they were in many cases unable to discover the causes of disease in which the infective agents were not known. Some other method than bacteriological examination of the blood was therefore much wanted as a supplementary method when this failed. We had for many years known that the causal organisms of typhoid fever and plague frequently occurred in the urine, and were apparently in many cases derived from the blood stream. A systematic study was therefore undertaken of the urine as an indicator of hæmic infection in typhus fever, the secondary infections of tuberculosis, purpura hæmorrhagica, scarlet fever, mumps, lobar pneumonia, broncho-pneumonia, meningitis, acute rheumatic fever, infective endocarditis, acute gastric and duodenal ulcer, appendicitis, infective cholecystitis, and pernicious anæmia, as well as in numerous cases of obscure fever without physical signs other than continued fever. In order to illustrate the value of the method full details were given of 20 cases of lobar pneumonia and of 30 cases of typhus

fever, special stress being laid on the use of the urine itself as the medium of growth, both for purposes of diagnosis and of preparation of vaccines for treatment. In the authors' experience hæmic infections of the urine were frequently missed if cultures were made on the ordinary laboratory media, which they also found unsuitable for the preparation of vaccines as being too far removed from the media of growth presented by the body. In lobar pneumonia it was found that a diagnosis of the type of infection could be made in a few hours, and in typhus fever it was found that a diagnosis could be made in a few minutes in doubtful cases. In all the cases of typhus fever in which the urine was examined a new organism was found which from inoculation into monkeys and from other tests might prove to be the cause of the disease.

Dr. L. FINDLAY and Dr. BLAIR M. MARTIN (Glasgow) communicated a paper on

The Effect of Daylight and Drying on the Human and Bovine Types of Tubercle Bacilli.

They had suggested the effects of drying alone, light alone, and the combined effect of light and drying upon pure cultures of the human and bovine types of bacilli. By placing weighed quantities of one month old cultures in small sterile test-tubes loosely plugged with cotton-wool and kept in a dark, well-ventilated cupboard, they found little appreciable loss of virulence of either type after seven days' desiccation. They also exposed at a window cultures on egg media sealed with paraffin to preserve water of condensation, and weighed quantities of growth were removed at the desired intervals. They found that within five days there was a definite lowering of the virulence of both types, but most marked in the human, which was avirulent in seven days. Similar cultures were exposed at the window in sterile tubes loosely plugged with cotton-wool, so that definite desiccation occurred. They concluded that with combined diffused daylight and drying within three days there occurred a marked diminution of virulence in both types, but especially with the bovine, and after seven days pathogenicity of both types had gone. They summarised their results as follows:—1. Desiccation *per se* had little effect on the virulence of either the bovine or human type of the tubercle bacillus. 2. Diffuse daylight was inimical to both types of the tubercle bacillus, but when the bacilli were in the dried condition the effect of daylight was more pronounced on the bovine type of the organism. 3. It would appear that the bovine type of the tubercle bacillus loses its virulence more rapidly than the human when distributed naturally in atmospheric dust, and herein might be found a partial explanation of the infrequency of pulmonary infections in man due to this variety of the organism.

Dr. J. CRUICKSHANK (Pollokshields) and Dr. J. MURRAY MOYES (Dumfries) communicated a paper on

The Presence and Significance of Nitrites in Urine.

The reagent that they had used was the Griess Ilosvay (alpha naphthylamine and sulphanilic acid). They had tested some 600 specimens of urine and substantiated the statement that nitrites did not occur in normal urines, but in patients suffering from mental and other diseases varying quantities of nitrites were found. In about 12 per cent. of the patients in the Crichton Royal Institution nitrites were found, and there appeared to be no relation to the amount of nitrite and the reaction of the urine. In all the positive urines they found Gram-negative bacilli in varying amount, and coliform organisms were obtained in pure culture from these cases. The administration of urotropine in doses of 10 grains three times a day was tested on two patients excreting nitrite with the result that the nitrite rapidly diminished and ultimately disappeared. They stated that as a result of these investigations they were of the opinion that the most common cause of nitrituria was an associated urinary infection, and that the presence of bacilluria should be sought for in all cases. The organisms generally belonged to the coli group and possessed in marked degree the power to split the nitrate of urine into nitrite. The test for nitrite afforded a simple and fairly reliable method of detecting cases of urinary infection without the use of the microscope, provided that the infection was not of such degree as to render the urine markedly alkaline. The occurrence of bacillary nitrituria in a great variety of morbid conditions might in all probability be regarded as an indication of diminished resistance to infection.

Dr. J. M. MORGAN (Pollokshields) and Dr. J. H. TEACHER (Glasgow) communicated a paper on

Aneurysm of the Aorta due to Bacterial Infection.

It consisted really of a demonstration of specimens that were associated with the clinical aspects of the case. The five cases discussed were all due to ulcerative endocarditis, and syphilis appeared to be excluded. Their demonstrations concluded with an interesting statistical record of 1000 successive necropsies, which included 37 cases of aortic syphilis without aneurysm, 21 cases of aneurysms due to syphilis, 5 cases of infective aneurysms, and 22 of dissecting aneurysms. Whilst commenting upon the rarity of such infective cases they thought it desirous to call attention to the fact that aneurysm in the region of the sinuses of Valsalva might be infective and non-syphilitic in origin.

ERRATUM.—Mr. H. M. W. Gray asks us to make a verbal correction in our report of his opening remarks on Anoci-association before the Surgical Section published last week (p. 648). Instead of saying that the wound should be *tightly* sutured, as reported, he said that it should be *accurately* sutured.

THE REPORT OF THE SELECT COMMITTEE OF THE HOUSE OF COMMONS ON PATENT MEDICINES.

(*Concluded from p. 657.*)

THE first portion of this report, which was published in THE LANCET last week, dealt with the law respecting patent medicines in British dominions and foreign countries, and showed the inadequacy of the existing law. This portion of the report also treated of the attitude of the press to secret remedies.

EXAMPLES OF SECRET REMEDIES.

36. In order to show the character of a large class of secret remedies, and at the same time to exhibit the general justification of some of our recommendations, we think it desirable to give in detail a number of facts we have elicited in examination of witnesses. The following examples are taken almost at haphazard, but they are types of innumerable old and new preparations advertised widely throughout the country, and they are constantly being added to. We would draw special attention to the fact that three of the remedies mentioned below (*a*, *b*, and *c*) are the property of witnesses not selected by ourselves, but put forward by the Proprietary Articles Section of the London Chamber of Commerce as representative of the trade in secret remedies.

(*a*) "Mother Seigel's Syrup."—This is one of the most familiar and widely sold secret remedies. The proprietors are A. J. White, Ltd. (Mr. White was an American, who died in 1899) of 35, Farringdon Road, London. When the present limited company was formed in 1897 with a capital of £1,000,000, the vendor's profit was £900,000. The capital has since been written down to £400,000. It employs 250 to 350 persons and pays from £30,000 to £40,000 per annum in wages, and a hundred million bottles are said to have been sold. It cannot be sold, unless smuggled, in Germany (where it is prohibited by name except on a doctor's prescription), France, Austria, or Italy.

For many years this preparation bore the statement that "an old woman, Mother Seigel, on her last legs with dyspepsia, was given up by her relatives and was allowed to wander in the lanes round her native village in Germany, and that one day she chewed a leaf of a herb only found in those parts, and found immediate relief." Your Committee arrived at the conclusion that every detail of this statement was an invention. There never was a Mother Seigel or this wonderful herb, and the entire story appears to be a fabrication.

This remedy is advertised as "a cure for impurities of the blood," "a cure for dyspepsia and liver complaints," and "a cure for anæmia," and it is described as "a highly concentrated, purely vegetable compound." The statement that it is "purely" vegetable was, we were told by the proprietors, "apparently put in by the advertisement writer without proper consideration." It is incorrect, as the preparation contains hydrochloric acid and borax. It is made up in batches of 200 gallons, and consists, the proprietors state, of a mixture of eleven vegetable substances, and therefore, as previously explained, it cannot be exactly analysed.

We considered "Mother Seigel's Syrup" at great length, regarding it as in many respects a typical secret remedy. To the representative of the proprietors we put no fewer than 1507 questions, and we received much technical evidence concerning its contents from three analysts, and from the Government Chemist and his assistant. The analysis given in "Secret Remedies" was disputed by and on behalf of the proprietors, and was defended by the analyst put forward by the British Medical Association. We think it well, therefore, to give in full the following analysis made for us by the Government Chemist, as this also illustrates our remarks above upon the limits of analysis of preparations containing a number of vegetable extracts.

"The analysis of the sample gave the following results:—

	Per cent. by weight.
Water and volatile acid	57·5
Mineral matters (ash)	5·1
Reducing sugars (calculated as invert sugar)	16·2
Cane sugar	11·0
Organic solids other than sugar	10·2
	100 0

"1. *Organic Ingredients.*—The proportion of sugars in the sample represents about 40 per cent. of treacle. In addition to the sugars, the organic ingredients were found to include:—

Essential oil, having an odour of sassafras...	A small quantity.
Starch	do. do.
Acetic acid	0·66 per cent.
Capsicum, equivalent to about 1 per cent. of tincture of capsicum, B.P.	
Aloes	About 1 per cent.
Other vegetable extractive substances (after deducting 1·4 per cent. of extractives due to treacle)	7·3 per cent.

"We have not found it practicable to separate characteristic constituents, or to obtain characteristic reactions, which would serve to identify definitely any organic ingredients of the mixture other than those mentioned above.

"2. *Mineral Ingredients.*—These consisted of borax, with small quantities of chlorides, sulphates and phosphates, such as occur in the ashes of vegetable substances.

Total boric acid	2·12 per cent. (equivalent to 3·26 per cent. of crystallised borax).
Total chlorides ...	1·51 per cent. (calculated as hydrogen chloride).

"3. *Acids.*—The volatile acid consisted mainly of acetic acid, with a little boric acid. The total free acid of the sample in terms of hydrochloric acid is 1·12 per cent., equivalent to 10·6 per cent. of the Pharmacopœia 'diluted hydrochloric acid.'

"The proportion of free acid, other than acetic acid, would correspond with 0·72 per cent. of hydrochloric acid, equivalent to 6·8 per cent. of the 'diluted hydrochloric acid' of the Pharmacopœia. Very little of this hydrachloric acid, however, would be actually present in the 'free' condition.

C. SIMMONDS.
JAMES J. DOBBIE.

"Government Laboratory, 21st December, 1912."

This official analysis and that of the analyst for the proprietors practically agree in the percentage of treacle (40 per cent. and 42 per cent.) and of vegetable extractive substances (7·8 per cent. and 8·42 per cent.). From the foregoing the fact emerges that 100,000,000 bottles of an American mixture, originally recommended by an elaborate falsehood, and containing—apart from about 10 per cent. of vegetable extracts, including aloes and capsicum, of whose names, therapeutic virtues, and money value we are ignorant—50 per cent. of water and 40 per cent. of treacle, have been sold at the retail price of 2*s.* 6*d.* for three fluid ounces.

(*b*) "*Daisy*" *Powders.*—These are the property of "Daisy, Limited, Leeds," a company with a capital of £15,000, employing about 40 persons. As at first sold, this medicine, which was originated in this form in 1893 by an unqualified retail druggist, was known as "Daisy Headache Powder," and contained 5 grains of acetanilide. The Board of Inland Revenue decided that this—which was exempt from stamp duty as a "pure drug"—could only be sold by pharmacists or persons holding a Patent Medicine licence, and many of the retailers of the powders were in too small a way of business to pay 5*s.* annually for this, even although the proprietors offered to pay half the cost. Therefore a second identical powder was put on the market, bearing the words "Head Powder," and "Daisy, Limited, Leeds," the label designed to lead the public to think it the same as the original powder. But the Board, after a long correspondence (which was shown to us), insisted that the packets bearing different names must contain different substances. Therefore a "Daisy Headache Powder" still contains 5 grains of acetanilide, but a "Head Powder" of "Daisy, Limited, Leeds," contains 8 grains of phenacetin.

The assets of this Company consist chiefly of the goodwill in the trade name "Daisy" (they informed us that they had also registered the word "Buttercup"), and their business consists in buying acetanilide and phenacetin by the ton, these costing respectively 9*d.* and 2*s.* 11*d.* a pound, and supplying them in 5 and 8 grain packets to retail at a penny apiece. When asked by our medical colleague whether headache might not be a warning symptom of serious diseases, and that therefore merely to remove the symptom might be a dangerous step, the proprietor replied: "I say headache is a pain in the head, and I say that a 'Daisy' powder will remove the ache." The official dose is 1 to 3 grains, and the Codex adds: "Doses of 5 to 10 grains are sometimes ordered, but may cause alarming symptoms." Professor Dixon, M.D., F.R.S., one of the highest authorities upon pharmacology, informed us that acetanilide is a dangerous drug, and he went so far as to say that it "ought never to be given under any circumstances."

(*c*) "*Fenning's Fever Curer.*"—This is advertised in the following terms: "The celebrated Remedy for the Prevention and Cure of Typhus, or Low Fever, Cholera, Diphtheria, Scarlet Fever, Fluxes, Yellow Fever, Influenza, Black Fever, Dysentery, Windy Spasms, Sore Throats, Griping Pains, Low Spirits, Diarrhœa, Small Pox, &c. Sore throats cured with one dose. Scarlet or Typhus Fever prevented or cured. Bowel complaints cured with one dose. Typhus or Low Fever cured with two doses. Diphtheria cured with three doses. Scarlet Fever cured with three doses. Cholera cured with five doses. Influenza cured with six doses." The Government Chemist informed us that this consisted of a dilute solution of nitric acid, flavoured with peppermint. It is sold at 1*s.* 1½*d.* for about 8 fluid ounces. The estimated cost of the ingredients is ½*d.*

(*d*) "*Antipon.*"—"One of the most valuable discoveries in modern therapeutics, solving once and for all the vexed question of the radical cure of obesity without harmful after-effects." A solution of citric acid in water, which we were informed would be without medical effect upon corpulency.

(*e*) "*Vitadatio*"—"Will cure the most severe cases of cancerous growths, tuberculosis, consumption, heart trouble, and tumours." We sent this to the Government Chemist. It is apparently a decoction of bitter herbs, containing only 1·48 per cent. of total solids, and no alkaloids or resins.

(*f*) "*Veno's Lightning Cough Cure.*"—"If it fails, no other medicine will ever succeed." According to the statement of the analyst of the British Medical Association, this contains about 8 per cent. of glycerine, with small quantities of alcohol, chloroform, and resin.

(*g*) "*Mer-zyren.*"—"Composed of the active principles of certain rare plants which flourish in the valleys situated on the southern slopes of the Himalaya, between the immense gorge separating Nepaul from Bhutan on the East and Almorah on the North-West." Recommended by "Dr. Pearson, late principal Medical Officer, North Bhangulpore, India." No place named Bhangulpore is mentioned in the Imperial Gazetteer of India. A cure for "dropsy, insanity, small-pox, angina pectoris, diphtheria, erysipelas," etc. No substance but potato starch could be detected by analysis.

(*h*) "*Phoserine.*"—"The greatest of all tonics." A weak solution of quinine in phosphoric acid. Prof. Dixon informed us that this contains no phosphorus which can have a therapeutical effect, and that any other acid to make a solution of quinine would do equally well.

(*i*) "*Steedman's Soothing Powders.*"—These contain, according to the Government Chemist's report, 27·1 per cent. of calomel. The directions for use for children say: "One may be taken for three or four nights successively at any time when the child complains of being poorly." The powders vary in weight, and a child may thus get one grain of calomel for several nights in succession. The toxicologist put forward as a witness by the proprietors admitted that "that is a somewhat tall order." In connexion with this remedy we learned that the pamphlet entitled "Hints to Mothers," accompanying it, and professing to be "by an M.D. London" recommending these powders on every page, was revised by a reputable London doctor, at the request of an advertising agent; that the references to these powders were subsequently inserted without the doctor's knowledge; and that "M.D. London" only meant a doctor living in London, and not, as would naturally be inferred, an M.D. of the University of London. It was not clear to us whether the proprietors and the publishers of this booklet were both responsible for the misstatement.

(*j*) "*Matrozone.*"—Made in a northern seaport, and said to have a large sale in the North of England. The package contains two bottles, each holding one fluid ounce, and sells for 5*s.* 6*d.* The accompanying booklet says: "This treatment is the result of the patient investigation of a Minister of Religion. ..... When a young man pursuing his studies with a view to qualifying for the Medical Profession he was profoundly impressed by the death of a young wife," etc. Its claim is as follows:—"Matrozone Promotes Natural, Rapid, and Easy Confinement. Ensures Healthy, Beautiful, and Bright Children." One bottle contained 68·9 per cent. and the other 60·3 per cent. of alcohol, with total solid matter too small to be weighed, such as might come from diluting the alcohol with tap-water, with no trace of any alkaloid.

(*k*) "*Burgess's Lion Ointment.*"—Advertised to cure tuberculous tumours, piles, fistulas, rheumatism, gout, sciatica, etc. "They are vegetable preparations." The chief ingredient is lead oleate (diachylon plaster), and no vegetable extracts or active principles are present.

(*l*) "Dearborn, Limited," a company founded almost without capital, with one director and two shareholders, employs six persons—a secretary, a typist, two bookkeepers, and two packers. Its business consists in inventing fancy names for preparations (see Par. 38), buying these from well-known manufacturers, labelled with these invented names, and selling them as remedies for short hair, freckles, liver spots, etc., by means of correspondence passing between fictitious persons and real or fictitious corre-pondents, inserted as, but not marked as, advertisements in popular magazines. Sometimes these are followed by an avowed advertisement, to suggest that what precedes is not an advertisement.

(*m*) "*No-Germo.*"—This was put upon the market, with full-page advertisements in the press, three months ago. It was announced in the following terms: "The wonderful remedy invented by Gertrude, Lady Decies has achieved a well-deserved popularity by its success in curing the most stubborn Colds, Hay Fever and Influenza, Nettle-rash, Eczema, and other Skin diseases. It acts as a soporific in cases of Insomnia; it affords great relief in Asthma; it is a prompt and certain cure for Stings of Wasps, Mosquitoes, and other insects. It is very easy to use and perfectly safe." We requested the Government Chemist to furnish us with an analysis of this, but he felt unable to do so, as its composition had been divulged to him in confidence by the manufacturers in connexion with action by the Customs and Excise. He therefore nominated, with the sanction of the Treasury, Mr. E. J. Bevan, F.I.C., County Analyst of Middlesex, and the latter has furnished us with the following report:

"'No-Germo' consists of an alcoholic solution containing camphor, ammonia and oil of cinnamon.

"It is conceivable, but unlikely, that there may be traces of other bodies, but I have not been able to discover them. The liquid is slightly yellow, more so than could be accounted for by the amount of oil of cinnamon present, but the difference in colour is most probably due to the prolonged action of the ammonia on the oil of cinnamon.

"Possibly the ammonia is present in the form of sal-volatile, but I am unable to say definitely.

"Beside the sample sent officially, I have examined, in more or less detail, eight other samples that I purchased at various chemists' shops. There is a very large variation in the composition. For example, the alcoholic strength varies from 51·1 per cent. to 64·8 per cent., and there are similar variations in the oil of cinnamon, the camphor and the ammonia.

"The average composition is set out below:—

Alcohol	58·3 per cent.
Oil of Cinnamon	0·9 "
Camphor	1·05 "
Ammonia	0·33 "

"The approximate cost of one bottle, selling at 2*s.* 3*d.*, is 3·64 pence, say 3¾*d.*"

Of the remedies discussed in this paragraph no person connected with those lettered *c*, *d*, *e*, *f*, *g*, *h*, *j*, *k*, and *m* took advantage of our general invitation to give evidence before us. We have, therefore, had no opportunity of hearing what they had to say in justification of

their methods, or in criticism of the statements made to us by other witnesses in reference to the articles sold by them. Persons interested in the remedies lettered *a*, *b*, and *f* appeared before us, and it is only fair to state that they strongly contested the accuracy of the analyses furnished to us of the constituents of their remedies. In dealing with this latter group at some length we have no intention of suggesting that these are exceptionally bad cases. The fact these persons gave evidence creates a presumption that they were better able to face examination of their business and their goods than many others manufacturing secret remedies.

EXAMPLES OF FRAUDULENT CLAIMS.

37. The following are a few examples, which could be multiplied almost indefinitely, of fraudulent claims:—

"The best remedy for consumption." (*Congreve's Elixir.*)

"Cures Bright's disease." (*Munyon's Kidney Cure*, consisting of sugar only.)

"It never fails to cure cancerous ulcers, syphilis, piles, rheumatism, gout, dropsy." (*Clarke's Blood Mixture.*)

"Bright's disease, stone in the bladder, dropsy, eczema, scrofula ..... can be speedily cured." (*Warner's Safe Cure.*)

"The absolute specific for all, or some, of their phases" of "syphilis and every form of venereal disease." (*Wallace's Specific.*)

"Applied freely will cure lumbago or sciatica in one night." (*Levasco.*)

"Cured not only rheumatism, but anæmia, eczema sciatica, St. Vitus's dance, Spinal weakness, etc." (*Pink Pills for Pale People.* These contain ferrous sulphate, and are one of the many variations of Blaud's pill—the *pilula ferri* of the British Pharmacopœia.)

"The remarkable curative influence exercised in cases of Bright's disease." (*Beecham's Pills.* This statement was made for many years, but was dropped a few years ago.)

"It will be sufficient to offer a few general remarks, and to indicate the method of cure [of syphilis], which is, beyond all, the question of supreme importance. Let it never be forgotten that even a slight delay in dealing with diseases of this type may be terribly fruitful of future trouble. In the first place, the advice of a properly qualified medical man is necessary, whatever the character of the disease, or whether it be hereditary or acquired. But the process of eradicating the poison from the system will be materially assisted by the aid of a perfectly safe, but reliable, searching, cleansing, purgative medicine; and nothing better for that purpose can be used than Beecham's Pills. They should be taken immediately, and continued for a considerable time after the cure is apparently complete." (*Beecham's Pills.* A part of this statement was characterised to us by Dr. W. Perrin Norris, formerly Director of Quarantine and practically Director of Public Health for the Australian Commonwealth, as "from our standpoint, one of the most serious, if not criminal, pieces of printed matter I have ever seen.")

INVENTED NAMES OF DRUGS.

38. A new and ingenious method of defrauding the public by the sale of secret remedies has recently been devised. This consists of inserting a "reader" advertisement—without the suffix "Advt." whenever the newspaper or magazine will consent to omit this—recommending for an ailment or a physical blemish a simple prescription containing one drug or preparation bearing a fancy name, "which any chemist will supply." This is an ordinary drug put up as a proprietary remedy under a fancy name, and sold, of course, at a fancy price. Sometimes these advertisements take the form of "Answers to Correspondents," or are given under the authority of a fictitious person, "Madame Lucie Robert," for instance. Examples of such fancy names are "pure colourless kalamax," "salith leaves," "stallax," "pheminol," "pergol," "pure bisurated magnesia," "boranium," "karox," "pilenta soap," "jettaline," "allacite of orange blossom," "tennaline," "carmarole," &c. These names are all invented words and should properly be printed with a capital initial letter, the proprietors having the exclusive right to their use as trade names. They are, however, printed in these disguised advertisements without capitals, to deceive the public into the belief that they are not proprietary articles, but are familiar drugs purchasable in small quantities at ordinary prices, whereas, in fact, they are only sold in a considerable quantity at a fancy price.

CHANGES IN NAME OR COMPOSITION OF REMEDIES.

39. It is not uncommon for the composition of a secret remedy to be altered without any change in the name. "Anti-kamnia," as we have said, was acetanilide in America, and is now phenacetin, and "Dalsy" powders were similarly changed. "Powell's Balsam of Aniseed" was repeatedly proved in courts of law to contain morphine. It now contains none. The same is true of "Mrs. Winslow's Soothing Syrup." The formula of "Pond's Arthriticus" was said to be altered by the addition of potassium bromide and salicylic acid. The powders in one packet of "Steedman's Powders" varied in weight from 1·9 to 4·5 grains. Sir Joseph Beecham informed us that "Beecham's Cough Pills" at one time contained morphia, as that was considered to be a necessary medicinal ingredient; that when the law compelled the word "Poison" to be put on the wrapper of preparations containing morphia, the morphia was taken out of the pills; then so small a quantity was put in again that it was "comparatively innocuous or perfectly innocuous," and therefore did not need to be labelled "Poison." That is, a potent drug was put in this remedy, taken out, and put in again, without regard to its medicinal effect, but solely because of the legal conditions under which it could or could not be sold.

CURE OF SYMPTOMS.

40. We have had occasion to remark upon the possible evil effects of causing the disappearance of a symptom, which may be nature's danger-signal, without affecting in any way the disease which causes it. In this connexion we may also point out that remedies offered for the same ailment—a cough, for instance—may affect it for good or for evil according to its nature and cause. The secret remedy naturally takes no account of this. For example, "Owbridge's Lung Tonic" is an expectorant mixture, a mixture to increase coughing, its principal ingredient being ipecacuanha. Whereas "Keating's Cough Lozenges," or "Beecham's Cough Pills," are the opposite kind of remedy, containing opium or morphia, the object being to stop the cough. A man whose chest is full of fluid needs to have his cough facilitated. A man with a varicose vein on his uvula needs to have his useless and exhausting cough stopped. Proprietary medicines make no attempt to distinguish between these two common types. Secret remedies, too, are constantly recommended for different ailments having a superficial resemblance, but medically considered, totally diverse. For example, "Beecham's Cough Pills" are recommended as "a safe and simple remedy" for both asthma and bronchial affections—asthma being a nervous disease, while bronchial affections are inflammation of mucous membranes. These examples, which could be multiplied, illustrate the danger of this kind of ignorant self-medication, upon which medical witnesses laid much emphasis.

"CURES" FOR FITS.

41. Advertisements by private persons offering cures for fits are familiar. With the help of the Chief Constable of Cheshire and the Government Chemist we investigated one of these. The advertisement read: "Fits.—Clergyman offers prescription for is. 1d.; never fails.—J. S., Graemere House, Winsford, Cheshire." Three different sets of initials were used at different times. Application brought a prescription for "koronium bromide," and a recommendation to procure it from "the actual manufacturers, Messrs. Whitby & Co., Chemical Manufacturers, Winsford, Cheshire." This was sold at 4s. 6d. for 4 ounces. We procured some, and—"koronium bromide" being, of course, an invented name—the Government Chemist informed us that it was the well-known drug strontium bromide, often prescribed for epilepsy, and purchasable at rates varying from 2s. to 3s. 8d. a pound. Police inquiries then showed that the advertiser was Harold Cuthbert Whitby, trading in a lock-up shop at Winsford, as "Whitby & Co., Chemists, Opticians and Wine Merchants."

THE TRADE IN ABORTIFACIENTS.

42. The trade in abortifacients presents one of the most deplorable aspects of the secret remedy trade. Innumerable remedies for "female irregularities" are advertised. A few of these are poisonous and have caused death, whilst most of them are wholly inactive for the purpose for which they are sold. Indeed, it cannot be too widely realised that no drug is known which can force the womb to expel its contents, and that nothing can endanger the life of an unborn child except by endangering in an equal degree the life of the mother. But a substance of the latter class is unfortunately widely sold and used in certain parts of the country as an abortifacient. This is "diachylon plaster," the *emplastrum plumbi* of the Pharmacopœia, a preparation of lead oleate, containing 28·9 per cent. of oxide of lead, supposed to be a mild astringent for application to inflamed surfaces. One medical witness expressed to us the opinion that for all practical purposes it is perfectly useless. But it is undoubtedly widely taken as a supposed abortifacient in the form of pills like "Mrs. Seegrave's Pills," or merely a bit of the plaster rolled up and swallowed.

Many deaths from the use of this substance for this purpose were reported to us. It can, of course, only produce abortion by producing lead poisoning, from which insanity, blindness, paralysis and death have resulted. The Pharmaceutical Society have for years vainly urged its inclusion in the Schedule of Poisons. The question of the total prohibition of its sale should be considered by the competent authorities.

Blackmail is a natural result of the sale of abortifacients. In 1898 two brothers named Chrimes were sentenced to penal servitude for demanding, under threats of exposure, two guineas from women who had purchased their drugs. The police intercepted in a short time no fewer than 600 letters, each containing two guineas.

Even simple aperient pills from reputable makers are recommended in language suggesting that they are efficacious for this particular purpose. In the instructions headed "Advice to Females" accompanying "Beecham's Pills," women suffering from "any unusual delay" are recommended to take five pills a day. The proprietor admitted in evidence that the most common cause of such delay is pregnancy.

"CURES" FOR CONSUMPTION.

43. Amongst fraudulent secret remedies the alleged cures for tuberculosis are perhaps the worst of all. Sufferers from this disease are, as is well known, peculiarly credulous of promises of help, and the "consumption quack" takes skilful and unscrupulous advantage of their pathetic hopes. Many secret remedies for consumption have been put upon the market, usually at high prices. For example, an American firm known as the Derk P. Yonkerman Company advertised for some years a remedy called "Tuberculozyne," Yonkerman himself being a Michigan veterinary surgeon. A month's treatment by this remedy cost £2 10s. The advertisement offered a book entitled "Consumption and How it can be Quickly Cured," of which the following paragraph is typical:—

> "After researches lasting for nearly twenty years, the persistent efforts of Dr. Derk P. Yonkerman have been crowned with success, for his Tuberculozyne treatment has already been proved in hundreds of cases to be a specific of almost miraculous curative power. Its healing virtues have been demonstrated in not only the early stages of consumption, but in far advanced and seemingly hopeless cases as well."

The inventor announced that he had "discovered certain salts of copper of remarkable therapeutic value. The consumption germs cannot live in the presence of copper, and as the Tuberculozyne treatment introduces copper into the blood the consumption germs cannot live." The remedy was contained in two bottles. Analysis showed one bottle to contain 18 parts of glycerine, with water and brown sugar, and the other 3·4 parts of potassium bromide, 12 parts of glycerine and a trace of capsicum, the whole coloured by cochineal. The preparation probably originally contained sulphate of copper when it was prepared in America, but we were informed that such was the chemical knowledge of Yonkerman that he sent his mixture to England in iron drums, the whole of the copper being deposited upon the iron during transport. The importation of "Tuberculozyne" into the Australian Commonwealth is prohibited. We would draw attention to the fact that this remedy is one of a peculiarly bad class, which are not advertised in the press or sold through the respectable retail trade, but constitute what is known as "mail order business."

Another well-known "consumption curer" is a man named C. H. Stevens, who has been denounced in "Truth" for nearly ten years, and against whom an action was brought by a widow in the Basingstoke County Court on July 27th, 1910, to enforce payment of a "guarantee bond" containing an undertaking that money paid for the remedy

would be refunded if no cure were effected. The Judge found for the widow, refused leave to appeal, and described the transaction as "an intentional and well-considered fraud."

Our attention was called to Stevens by a letter addressed to the Chairman stating that the writer had seen in a newspaper a report of our proceedings, that he was suffering from tuberculosis and was taking a patent medicine from a London firm who guaranteed a cure, of the name of C. H. Stevens, of Wimbledon, regarding which he asked the opinion and advice of your Committee. After some correspondence this gentleman consented in the public interest to give evidence before us, but on the condition that his name should not be published. He appears, therefore, in the Report of our Proceedings of July 16th, 1912, under the name of Mr. A. His correspondence with Stevens, which he placed in our hands, was, as might be expected, a series of complaints that he was getting no better but rather worse, with assurances from Stevens that persistence in the use of the remedy would certainly effect a cure. At last Mr. A requested the return of the five guineas paid, in accordance with Stevens's guarantee, and finally, under the threat of legal proceedings and after Mr. A had appeared before us, Stevens returned the money. We submitted two bottles of the remedy supplied by Stevens to the Government Chemist, who gave us the following analysis:—

	Sample first bottle. Per cent.	Sample last bottle. Per cent.
Proof spirit...	19·5	19·5
Solid matter	2·8	3·4
Mineral substance (ash)	0·2	0·2
Glycerol (approximately)	10·7	17·8

"No alkaloids or resins were found. The solid matter corresponds with the colouring and extractive substances of an ordinary wine. The samples are therefore essentially mixtures of wine and glycerol." (Glycerol is glycerine.)

It is instructive, as illustrating the credulity of the public, that Mr. A, although an intelligent man, believed that Stevens's lithographed letters were written by Stevens's own hand with reference to his particular case, and that in spite of our efforts to enlighten him, he was obviously still impressed when he left us by Stevens's "challenge" to the Brompton Hospital for Consumptives. This was a request from Stevens to the authorities of the hospital to inoculate him with the worst form of tuberculosis, on the condition that when he cured himself by his own remedies the hospital should adopt his treatment for the cure of consumption. An eminent specialist, Dr. Hector Mackenzie, was good enough to examine and advise Mr. A at our request, without professional charge, and he informed us that in his opinion excavation of the lungs had taken place or extended during the time that Mr. A was taking Stevens's remedies. Stevens was inserting full-page advertisements of his consumption cure in London daily papers last year. We may add that Stevens has recently brought an action for libel against the British Medical Association for statements made regarding his remedy in "Secret Remedies." The defendants pleaded justification, and the jury found for the defendants.

FICTITIOUS NAMES.

44. It is a common practice of vendors of secret remedies to recommend them by the name of a fictitious person. We have already mentioned "Mother Seigel" and "Madame Lucie Robert." Another example is "Mrs. Johnson's Gripe Relief," with which Mrs. Johnson had nothing to do. Another is "Roulet injection" for gonorrhœa, guaranteed by the facsimile signature of "Dr. Roulet," an imaginary person. Other fictitious names that have come to our notice are "Mademoiselle Florence Gauthier," "Mademoiselle Marcelle Rouvier," "Mildred St. Aubyn," "Mademoiselle Agnes Deprés," "Mademoiselle Marguerite Fournier," and "Dr. Duclaud."

PRACTICES OF SECRET REMEDY VENDORS.

45. The most disreputable class of proprietors of secret remedies trade under many aliases. As soon as one name becomes notorious, or when they have exhausted the credulity of the public for one remedy, they assume another name. Thus Crippen, the murderer, "aural surgeon to the Drouet Institute," was also M. Frankel. Elmer Shirley, who is still advertising extensively, has been Keith Harvey, Edward Meyer, the "Sanalak Institute," Marr, and Erasmus Coleman. An American named Skinner was successively Scott, Symond's London Stores, Professor Dana, Professor Pollock, and Horatio Carter. Nelson Lloyd, an Englishman who sold a "fat cure," was in reality an advertising agent named Derry. Two Americans, Virgil P. Neale and Thomas Adkin, were the Cartilage Company, advertising to increase height; as Harriet Meta they sold a "wrinkle eradicator"; as Kathryn B. Firmin, of the Roman Solvene Laboratory, they undertook to remove superfluous hair; and as Everett Wood they offered to make hair grow on bald heads.

46. The wiles of some vendors of secret remedies almost pass belief. Evidence was given to us in private to the effect that an agent of a "kidney cure" went from door to door in the artisan quarters of a northern town, stating that many people were in the first stages of kidney disease without suspecting the fact, but that a sure test was to take a pill which he left with them. If the urine became blue, he explained, that was a proof of kidney disease, which could certainly be cured by taking So-and-So's remedy. The pill contained a blue aniline dye, which of course produced immediately the result mentioned. The widespread alarm caused by this abominable trick may easily be imagined. We were informed that there exist to-day agencies, one in Leeds, which advertises frequently, and one or two in America, selling lists of names of sufferers from various diseases at so much per thousand. That is, a person about to put on the market a "consumption cure" or a "rupture cure," or a "cancer cure," can buy a list of a thousand persons suffering from tuberculosis or rupture or cancer, these lists being the names of people who have at some time answered advertisements regarding these diseases, and whose names and addresses thus possess a money value.

THE MEDICAL PROFESSION AND SECRET REMEDIES.

47. So far as we have been able to discover, no scientific chemist and no qualified medical man, with rare exceptions, is connected with or employed in the manufacture of secret remedies such as those we have placed in class B. And we have failed to find that any new drug, or new discovery of a method of compounding known drugs, has been placed at the service of the public as one of that class of secret remedies. We have learned, however, to our great surprise, that persons of influential social position and small means will sell the use of their names to advertise secret remedies; that large sums of money are expended in canvassing medical men; that many medical men give testimonials (with the use of their medical qualifications but without the use of their names) to proprietary and secret remedies—and allow themselves to be made, as a medical man declared in a public address, "the catspaw and fool of the fraternity of the secret remedy"; and that there are medical men who prescribe to their patients remedies of this class of whose composition they are themselves largely ignorant. We had evidence in two cases of medical men acting as directors of companies manufacturing secret remedies.

THE PATENT MEDICINE STAMP AS AN ADVERTISEMENT.

48. We find that the Patent Medicine Stamp is not infrequently used as an advertisement. For example: "Therapion appears on Government Stamp, affixed to every package by His Majesty's Hon. Commissioners, and without which it is a forgery." And at the head of the booklet sent out by the proprietors of this remedy appears the words: "Protected by His Majesty's Hon. Commissioners," with the Royal Arms. Again: "To prevent spurious imitation of this excellent medicine. On the 24th of May, 1839, Her Majesty's Honourable Commissioners of Stamps ordered the name of 'John Steedman, Chemist,' to be engraved on the Government stamp affixed to each packet, without which none after that date can be genuine." This was altered three years ago. Again: "To prevent fraud, His Majesty's Commissioners of Inland Revenue have ordered the words 'Lincoln and Midland Counties Drug Company, Lincoln, England,' to be printed in white letters on a red ground on the Government Stamp which is affixed over the cork of each bottle, and to imitate which is a felony. Please note that these words are engraved in the stamp, and the words 'Clarke's World-Famed Blood Mixture' are blown in the bottle." Again: "Caution. The public are requested to notice that the words 'Beecham's Pills, St. Helens,' are engraved on the Government Stamp affixed to every box of pills." Again: "Mrs. Johnson having disposed of the recipe and property in the American Soothing Syrup to Messrs. Barclay and Sons, begs to refer the Public to the Government Stamp with their name thereon as a security to purchasers." The object of these statements is obviously to cause the purchaser to think that the stamp implies some kind of guarantee of value of the remedy, although in recent years the stamp has borne the words: "This stamp implies no Government guarantee." The Inland Revenue authorities print the vendor's name on the stamp for a consideration of £8.

FRAUDULENT APPLIANCES.

49. Much fraud is also successfully practised by the advertisement and sale of appliances as alleged cures for many ailments. Electric belts and pads are a familiar form of these. Macaura's "Vibrator" was a clumsy method, at an exorbitant price, of applying mechanical massage, by which a little good might be done in a few cases and much harm in many cases. Artificial ear-drums of india-rubber, occasionally used by aurists, are sold by manufacturers at 1s. and 2s., but by quacks at from one to two guineas the pair, and often cause positive and serious injury. Appliances alleged to supply oxygen (otherwise than by inspiration), such as the "Oxydonor" and "Oxygenator," are of course deliberate swindles, for the makers cannot be supposed to be as ignorant of chemistry and therapy as their victims.

50. Lest it may be thought that the foregoing examples and remarks place even the worst class of secret remedies in too unfavourable a light, we desire to call attention to a single answer of one witness regarding this trade in general. This was the chief witness put forward by the Proprietary Section of the London Chamber of Commerce on behalf of the trade, Mr. John Charles Umney, managing director of Messrs. Wright, Layman, and Umney, Ltd., an important firm of medicine proprietors and manufacturers of proprietary articles. In addition to this position, his personal qualifications include Pharmaceutical Chemist by examination, Fellow of the Chemical Society, Fellow of the Society of Public Analysts, Adviser in Pharmacy to the Local Government Board of Ireland, Technical Referee on Essential Oils to the Imperial Institute, Past President of the Wholesale Druggists' Association, first President of the Proprietary Articles Section of the London Chamber of Commerce, &c. And the question and answer were as follows:—

Chairman: Do you think, in view of your own position and attainments, and your business in these things, to which I have alluded, as to which you are put forward as a witness on behalf of the whole trade, that so far as a large part of the patent medicine trade is concerned you are a fair representative of it?

Witness: I hope I am not.

51. It will probably now be learned without surprise that witnesses of unquestionable authority have assured us that grave evils, urgently requiring remedy, arise from the present sale and advertisement of secret remedies. We may quote the following as examples. As regards diseases arising from sexual intercourse, Dr. Reginald Edward Cross, M.R.C.S., L.R.C.P.: "A very grave and widespread evil, urgently demanding legislative action." As regards aural diseases, Mr. P. Macleod Yearsley, F.R.C.S.: "A widespread and grave evil, which I most decidedly believe requires legislative treatment." Regarding dangerous drugs, Professor A. R. Cushny, M.D., F.R.S., Professor of Pharmacology at University College: "There is urgent need of new legislation." As regards diseases of the skin, Dr. Arthur Whitfield, M.D., F.R.C.P., Physician to the Skin Department, and Professor of Dermatology in King's College Hospital: "The harm done is appalling. ..... There is an urgent demand for legislation." As regards the sale of proprietary and secret remedies in general, Professor Walter Ernest Dixon, M.D., B.Sc., F.R.S.: "The existing law is greatly in need of amendment in the public interest." And on the general question a witness of a wholly different character, Mr. G. Sidney Paternoster, assistant editor of *Truth*, who gave us interesting and valuable evidence from the experience of that journal in pursuing for many years the vendors of fraudulent secret remedies: "There is an enormous evil, which calls for alteration of the law to meet it. ..... There is absolutely no question about it, the public is defrauded of millions in the course of a year, and purely by false statements."

REQUIREMENTS OF AUSTRALIAN LAW.

52. We have already spoken (*see* Par. 6 (1)) of the law of the Commonwealth of Australia, as it affects the importation of proprietary and secret remedies. Some striking instances of the requirements of this

law came before us in evidence, of which the following will be sufficiently illustrative.

The omission of this statement was required from the circular accompanying "Steedman's Soothing Powders":—

"Thus the commencement of hydrocephalus, tabes, mesenterica, rickets, and other morbid affections may not infrequently be traced to the period of teething."

The same firm was required to print in capital letters on the label:—

"One powder only and no more."

And they were also required to state on the label:

"The contents of this package include 27 per cent. of calomel."

In the circular accompanying "Beecham's Pills," when reference is made to kidney troubles, for the statement:

"Beecham's Pills will probably be the only medicine required to achieve the desired result,"

the following was required to be substituted:—

"and no other aperient medicine is likely to be required than Beecham's Pills."

And the same proprietor was required to omit the statement regarding "Beecham's Cough Pills." "The cough pills do not contain any injurious ingredient," and the whole of the passage sent out with "Beecham's Pills" regarding "Secret Maladies."

On the label of "Woodward's Gripe Water" this statement occurs:—

"Celebrated Gripe Water, or Infants' Preservative, for the disorders of children—viz., convulsions, gripes, acidity, flatulency, whooping-cough, and the distressing complaints incidental to children cutting their teeth, allaying the pain, giving instant relief, and rendering this crisis perfectly mild and free from danger."

This was required to be reduced to the following:—

"For the relief of the simple and familiar ailments of infants and young children, especially during the period of teething."

The following sentences and names are examples of what under the Commonwealth law are regarded as "false trade descriptions," and are therefore prohibited:—

"Will cure any case of scrofula."
"Will prevent the return of cancer."
"An unparalleled remedy."
"It never fails."
"Surpasses anything ever discovered."
"The safest remedy in diphtheria."
"For all kinds of fevers."
"Cures any old disease lurking about the system."
"There is nothing in the world so good for you as —."
"Lightning Cough Cure."
"Skin Food."

Synthetic preparations bearing names indicating or suggesting a natural origin or base must have the word "artificial" added. For example, "Balm of Figs," "Fruit Pills," and "Sugar of Milk Pilules."

Fanciful names, like "August Flower," "Dutch Drops," "Orange Blossom," "Asiatic Drops," are not accepted unless supplemented by a description of the nature of the preparation or the maladies it is intended to cure.

Certain drugs, if present in a medicine, must be mentioned on the label and the quantity specified. These are such as the bromides, iodides, chloral, cantharides, phenacetin, &c.

The importation of articles and remedies may be totally prohibited. Among these have been the "Oxygenator," the "Oxydoner," and "Tuberculozyne."

Finally, "trailer" advertisements—that is, printed matter enclosed with one remedy and recommending another; advertisements recommending the regular use of a remedy, as for instance, "One of our pills taken twice a week will maintain you in regular functional activity"; and invitations to correspond, are forbidden.

The foregoing examples will suffice to show how the Commonwealth authorities carry out their aim, namely, "the application of common sense and common medical knowledge, with a view to the protection of the necessarily more or less ignorant public."

"EXHIBITION OF FORMULA."

53. It has been strongly urged upon us, chiefly by witnesses representing the medical profession, that every remedy sold should by law be compelled to bear a label stating its exact composition. This is what is meant by "exhibition of formula," and witnesses advocating it came to us convinced that this simple change in the law would secure adequate protection of the public against injury and fraud. We have given long and careful consideration to this proposal, and we find ourselves unable to recommend it. In the first place, it would beyond question inflict a grave hardship, sometimes amounting to ruin, upon proprietors of secret remedies, or the loss of their investments upon shareholders in limited companies. Any long established remedy in the lawful advertising and sale of which very large sums have been spent would immediately be faced upon the market by a score of preparations advertised as made from the same formula and sold at a much lower price. An example was given to us of a remedy the proprietary rights of which were immediately destroyed by disclosure of its formula. The above would not, we are aware, be a conclusive argument against this proposal if its adoption would really protect the public against danger and fraud. We are convinced, however, that such would not be the case. Any benefit resulting from exhibition of formula must obviously depend for its efficacy upon the intelligence and education of the intending purchaser. It could not in any other way afford protection to the purchaser or restrict the operations of the vendor, though incidentally it would enable a retail chemist to offer the same drug or mixture, made up by himself, at a lower price. But to a large majority of purchasers a statement of composition or contents on the label would afford no information whatever. The disclosure that a remedy contains or consists of "acetyl-salicylic acid," or "hexamethylene-tetramine," or "phenolphthalein," or "taka-diastase," or "emplastrum plumbi," or even "acetanilide" or "potassium iodide," would be meaningless to most people; indeed, the simplest substances might acquire distinction from being described in technical chemical language—soap, for instance, a large ingredient of the most popular aperient pills, posing as "sodium oleate and stearate." And if it be rejoined that the popular name should be required to be given, the answer is obvious that many of the most important drugs, such as most of those mentioned above, have no popular name. Further, an accurate statement of contents might be in itself misleading. For example, if "Phosferine" were stated to contain phosphoric acid, almost every purchaser would believe that he was getting assimilable phosphorus. The question also naturally arises whether the purchaser of a penny powder or a 1s. 1½d. bottle should protect himself against injury or fraud, or whether the State should not protect him, as it does against other injuries and frauds. For these reasons exhibition of formula (except in the case of alcohol, poisons, and certain dangerous drugs) does not appear to us to be a proper, practical, or effective measure.

SUGGESTED AMENDMENTS OF EXISTING LAW.

54. It has further been suggested to us, and counsel's opinion in support of the suggestion has been laid before us, that existing laws might be so amended as to afford all necessary protection to the public. For example, the advertisement of goods might, by an amendment of the Merchandise Marks Act, be deemed to be the application of a trade description to such goods. A false advertisement would then become an offence under this Act. Again, in the Sale of Foods and Drugs Act the specific omission of patent and proprietary remedies might be deleted, thus making, under Section 20, the label a warranty, and therefore the wilful use of a false label an offence. These amendments would be of some value, but the question of what is a "warranty" is a difficult one in law, and has been subject to numerous decisions of the Courts. In the worst cases, too, a man might have finished his advertising campaign, "cleaned up" his profits, and left the country before the warranty could be enforced. Further, the suggested amendment of the Sale of Foods and Drugs Act would be useless without exhibition of formula, and we have already given reasons for regarding that proposal as inadmissible. We are therefore of opinion that amendment of existing laws, involving complicated legislation by reference, would not afford adequate and available protection. If a change in the law is required, it must be new legislation *ad hoc*. We remitted this important question for further examination to Mr. Guy Stephenson, Assistant Director of Public Prosecutions, whose evidence upon this and cognate legal matters has been of the greatest value to us. In the above conclusion we concur with the view he expressed to us after careful reconsideration. The Indecent Advertisements Act, however, urgently requires amendment, and a satisfactory amending Bill was introduced into the House of Lords by Lord Braye and read a second time on July 12th, 1910.

FINDINGS.

55. After careful consideration of the evidence laid before them your Committee find:—

(1) That there is a large and increasing sale in this country of patent and proprietary remedies and appliances and of medicated wines.

(2) That these remedies are of a widely differing character, comprising (*a*) genuine scientific preparations; (*b*) unobjectionable remedies for simple ailments; and (*c*) many secret remedies making grossly exaggerated claims of efficacy; causing injury by leading sick persons to delay in securing medical treatment; containing in disguise large proportions of alcohol; sold for improper purposes; professing to cure diseases incurable by medication; or essentially and deliberately fraudulent.

(3) That this last-mentioned class (*c*) of remedies contains none which spring from therapeutical or medical knowledge, but that they are put upon the market by ignorant persons, and in many cases by cunning swindlers who exploit for their own profit the apparently invincible credulity of the public.

(4) That this constitutes a grave and widespread public evil.

(5) That in British Dominions and foreign countries severe legal restrictions exist, and that there is a tendency still further to strengthen the law against these articles.

(6) That no Department of State and no public officer is charged with the duty of controlling the sale and advertisement of proprietary remedies in this country; that the Home Office and the Local Government Board are virtually powerless in this respect; that the Privy Council Office, though supposed to be specially concerned with the sale of drugs, has no initiative in the matter, and in fact, it fulfils no useful function in this connexion.

(7) That the existing law is chaotic and has proved inoperative, and that successful prosecution for fraud in the advertisement and sale of secret remedies is fraught with the greatest difficulty, though the Public Prosecutor has perhaps not sufficiently tested the powers of the existing law in respect to such cases.

(8) That consequently the traffic in secret remedies, except as regards scheduled poisons and the grosser forms of impropriety, is practically uncontrolled in this country.

(9) That this is an intolerable state of things, and that new legislation to deal with it, rather than merely the amendment of existing laws, is urgently needed in the public interest.

(10) That grave injury is caused to the public by the existing large sale of medicated wines.

(11) And that while, for reasons already given, it is not desirable to require the exhibition of formula of every secret remedy, nevertheless it is improper that under the protection of the law enormous quantities of alleged remedies should be sold the composition of which is unknown to any person except the manufacturers of them; and that therefore the formulæ of all secret remedies should be required to be communicated to a competent officer appointed under the authority of a Minister of State, but that such formulæ should not be divulged to any other person except as hereinafter recommended.

RECOMMENDATIONS.

56. Your Committee therefore recommend:—

(1) That the administration of the law governing the advertisement and sale of patent, secret and proprietary medicines and appliances be coördinated and combined under the authority of one Department of State.

(2) That this administration be part of the functions of the Ministry of Public Health when such a Department is created, and that in the meanwhile it be undertaken by the Local Government Board.

(3) That a competent officer be appointed to this Department, with the duty of advising the Minister at the head of the Department concerned regarding the enforcement of the law in respect of these remedies.

(5) That there be established at the Department concerned a register of manufacturers, proprietors and importers of patent, secret and proprietary remedies, and that every such person be required to apply for a certificate of registration and to furnish

(a) the principal address of the responsible manufacturer or representative in this country, and (b) a list of the medicine or medicines proposed to be made or imported.

(6) That an exact and complete statement of the ingredients and the proportions of the same of every patent, secret and proprietary remedy; of the contents other than wine, and the alcoholic strength of every medicated wine, and a full statement of the therapeutic claims, made or to be made, and a specimen of every appliance for the cure of ailments other than recognised surgical appliances, be furnished to this Department, such information not to be disclosed except as hereinafter recommended, the Department to control such statement, at their discretion, by analyses made confidentially by the Government Chemist.

(7) That a special Court or Commission be constituted with power to permit or to prohibit in the public interest, or on the ground of non-compliance with the law, the sale and advertisement of any patent, secret or proprietary remedy, or appliance, and that the commission appointed for the purpose be a judicial authority such as a Metropolitan Police Magistrate sitting with two assessors, one appointed by the Department, and the other by some such body as the London Chamber of Commerce.

(8) That the President of the Local Government Board (or Minister of Health) have power to institute the necessary proceedings to enforce compliance with the law, the sale and advertisement of any patent, secret or proprietary remedy, or appliance.

(9) That a registration number be assigned to every remedy permitted to be sold, and that every bottle or package of it be required to bear the imprint "R.N. . ." (with the number), and that no other words referring to the registration be permitted.

(10) That in the case of a remedy the sale of which is prohibited, the proprietor or manufacturer be entitled to appeal to the High Court against the prohibition.

(11) That the Department be empowered to require the name and proportion of any poisonous or potent drug forming an ingredient of any remedy to be exhibited upon the label.

(12) That inspectors be placed at the disposal of the Department to examine advertisements and observe the sale of proprietary remedies and appliances.

(13) That an annual fee be payable in respect of every registration under issued.

57. Your Committee make the following recommendations regarding the amendment of existing laws:—

(1) That the Stamp Acts be consolidated and amended to remove the numerous existing anomalies and unreasonable exceptions. In this connexion, pure drugs vended entire under a fancy name should no longer be exempt from duty; the distinction between the name of an ailment, and the name of an organ the seat of that ailment, should be abandoned; and the exemption of medicines generating carbonic acid gas should be omitted (*see* Par. 16). Further, any reference in advertising matter to the Government stamp should be prohibited, and no name of a proprietor or firm should be printed upon the stamp.

(2) That the Indecent Advertisements Act be amended on the lines of Lord Braye's Bill.

58. Your Committee further recommend the following legislative enactments:—

(1) That every medicated wine, and every proprietary remedy containing more alcohol than that required for pharmacological purposes, be required to state upon the label the proportion of alcohol contained in it.

(2) That the advertisement and sale (except the sale by a doctor's order) of medicines purporting to cure the following diseases be prohibited:—

Cancer	Diabetes	Locomotor ataxy
Consumption	Paralysis	Bright's disease
Lupus	Fits	Rupture (without opera-
Deafness	Epilepsy	or appliance)

(3) That all advertisements of remedies for diseases arising from sexual intercourse or referring to sexual weakness be prohibited.

(4) That all advertisements likely to suggest that a medicine is an abortifacient be prohibited.

(5) That it be a breach of the law to change the composition of a remedy without informing the Department of the proposed change.

(6) That fancy names for recognised drugs be subject to regulation.

(7) That the period of validity of a name used as a trade mark for a drug be limited, as in the case of patents and copyrights.

(8) That it be a breach of the law to give a false trade description of any remedy, and that the following be a definition of a false trade description:—"A statement, design or device regarding any article or preparation, or the drugs or ingredients or substances contained therein, or the curative or therapeutic effect thereof, which is false or misleading in any particular." And that the onus of proof that he had reasonable ground for belief in the truth of any statement by him regarding a remedy, be placed upon the manufacturer or proprietor of such remedy.

(9) That it be a breach of the law—

(a) To enclose with one remedy printed matter recommending another remedy.

(b) To invite sufferers from any ailment to correspond with the vendor of a remedy.

(c) To make use of the name of a fictitious person in connexion with a remedy. (But it should be within the power of the Department to permit the exemption of an old-established remedy from this provision.)

(d) To make use of fictitious testimonials.

(e) To publish a recommendation of a secret remedy by a medical practitioner unless his or her full name, qualifications and address be given.

(f) To promise to return money paid if a cure is not effected.

The Report concludes by registering the belief of the Committee that departmental and legislative action in accordance with such outlines will not inflict injustice upon any patent or proprietary medicine or appliance; that it will, alike by its operative and its deterrent effect, afford the public efficient and urgently needed protection against injury and fraud; and that no measures of a smaller scope will secure this result.

They express appreciation of the ability and tact of Mr. F. C. Bramwell, whose duties as clerk in connexion with a long inquiry have been onerous and delicate.

ANNUAL REPORT FOR 1912 OF THE REGISTRAR-GENERAL.

I.

IN the introduction to his seventy-fifth annual report, which has just been published, Mr. Bernard Mallet further develops the scheme foreshadowed in his previous reports for the re-arrangement of the statistical publications of his office. We have already directed attention to certain changes adopted in the volume for 1911,[1] which practically inaugurated a new series. Particular reference was made to the more important of these changes in the hope that, by encouraging discussion, the greatest possible advantage to the public health might be derived from the supplementary information therein for the first time accessible. As the new features embodied in that report appear to have met with general approval they are retained in the present volume. Having reference mainly to the principles of tabulation employed, they necessarily leave untouched both the extent of the data and the methods of their collection. The Registrar-General rightly insists that due progress in these matters can only be secured by a thorough revision of the present system of registration, which would obviously involve legislation. Such legislation, however, is greatly to be desired, not only for statistical but for administrative reasons. This report contains evidence of steadily increasing coöperation between the medical departments of Somerset House and Whitehall, as well as between these and the local officers of health. The classification of death causes adopted by the General Register Office will now be found identical with that of the Local Government Board, and practical uniformity has been secured in the statistical tables authorised for use throughout the public health service. The completion of a fairly satisfactory system of distributing institution deaths has added materially to the labours of the central office. The Registrar-General properly acknowledges the dependence for success of this system on the coöperation of the local medical officers of health, without whose aid the difficulties of the task would have proved insuperable; and it is gratifying to learn that in return for the help voluntarily rendered the plan of distribution has been so arranged that each district medical contributor is to receive a copy of all necessary information respecting the natality and mortality of his own locality. Accordingly, a uniform and comprehensive scheme is now in operation which serves local requirements as well as those of the central office. The above-mentioned concessions will be welcomed by practical sanitarians, and they may indicate the approach of a Ministry of Health as a means for the centralisation of the various State departments controlling the sanitary and Poor-law services.

Vital Statistics.

The detailed analysis of vital statistics has been entrustep to Dr. T. H. C. Stevenson, whose important work contains evidence of skill and commendable care in its elaboration.

The English birth-rate in the year under notice was the lowest on record, the proportion of births to population being only 23·8 per 1000 living, which is below the average rate in the preceding decennium by 3·4 per 1000. The rate of birth obviously varies with the proportion of females of conceptive ages in the community, and with the proportion of these who are married. An interesting table is given showing the changes in these respects recorded at the several census enumerations since 1871. In this table the effective period of female married life—viz., 15–45 years—is divided into four groups, for each of which the changes are shown in the age constitution of the married women. The

[1] THE LANCET, Nov. 22nd, 1913, p. 1491, and Nov. 29th, 1913, p. 1566.

most remarkable features in this table are the persistence of fall in the proportion of marriages to marriageable persons, and the evidence of the postponement of marriage among women. At the recent census the proportion of women at fertile ages who are married was higher than in 1901, but the proportion of these married women had fallen at each of the three age groups from 15 to 35. Bearing in mind the extent to which fertility diminishes with advancing age, it is obvious that this change alone must have tended materially to the reduction of the birth-rate.

Fertility in Relation to Age.

The effect of decrease in the fertility of married women—due, in some measure, to their greater average age, but largely no doubt to deliberate restriction of childbearing—is apparently masked to some extent by the net results of other changes in the constitution of the population, so that these cannot be appealed to as helping to explain the fall in the birth-rate. The highest rates recorded for 1912 are those of Wales, ranging up to 28·8 per 1000, and next to these those of the north of England, where the highest rates average 25·8. The rates of the south of England are by far the lowest, in some cases not exceeding 19·5 per 1000. These differences depend on real inequalities of fertility, for when allowance is made for variation in the proportion of married women of fertile age they are still apparent, although in a comparison of legitimate births in proportion to married women the southern deficit is less marked. The high ratios of Wales and of the northern rural districts are doubtless due to the large proportion of miners in the population, the fertility of miners being normally much higher than that of the general community.

Fertility in Relation to Occupation.

Tables are here for the first time presented showing the numbers of children born in relation to the numbers of parents engaged in the various industries. This has been accomplished for the year 1911 with the help of the Census returns. The legitimate births are stated in terms of possible fathers, and the illegitimate in terms of possible mothers. In order to adjust for discrepancies between the occupation returns and the birth registers the fertility rates are shown, not for each separate industry, but for eight industrial groups, the occupations composing which being arranged in descending order of the social scale. Fertility increases progressively from the highest group to the lowest, the figures ranging, among married males under 55, from 119 per 1000 in the upper and middle-class group to 213 per 1000 in the purely unskilled labour group. Particulars concerning the wives of the occupied men are contained in the census schedules, but these have not as yet been tabulated.

The combined ages of husbands and wives are now in course of abstraction for the several industries, and these together with the tabulated statements of surviving children will make possible in future the calculation of fully standardised families for each occupation. These rates will be free from the weakness of those here shown for the births of 1911, inasmuch as due allowance will then be made for differences in the age at which men in different industries marry, as well as for differences between their ages at marriage and those of their wives.

Natural Increase.

The natural increase of the population, or excess of birth-rate over crude death-rate, is shown in a table for the several years since 1876. The fall in the birth-rate of 1912 was accompanied by a still greater fall in the death-rate from that of the exceptionally hot and dry year of 1911. The natural increase rose from 9·8 per 1000 in 1911 to 10·5 in the following year. These two rates are the lowest ever recorded in this country, the next lowest being 11·2 in 1909. As the death-rate in the year under notice was the lowest on record, and the natural increase of the population was also very low, it is evident that the fall in the birth-rate has now reached a point at which it is no longer likely to be fully compensated by the decrease in mortality. During the first few years after 1877, when the birth-rate began to fall, a diminution of natural increase took place. Then for many years this falling mortality compensated for the defect in natality; but in 1911 and 1912 this compensation failed. Moreover, as the falling birth-rate must automatically tend to increase the death-rate by raising the average age of the living, it appears certain that continuance of the fall in the birth-rate will eventually outstrip that in mortality.

Natality and Mortality in Administrative Areas.

In the series of reports initiated in 1911 there will be noticed a feature that has never before appeared—namely, a summary of the most important natal and mortal statistics relating not to registration areas, as formerly, but to every administrative county and district in England and Wales. The same rules and conventions of tabulation having been applied to every area in the list the data will be found generally comparable. Also new to these reports is a table showing the adjusted populations and annual deaths from which the standardising factors have been computed, the object being to furnish students with the means of obtaining standardised rates for any desired combination of areas. Medical officers of health who have ever attempted to compare tables of mortality calculated for different localities by varying methods will doubtless appreciate at their true value statistics dealing uniformly and impartially with all.

Very remarkable is the fall of mortality in recent years which has occurred in almost every European country. In England and Wales the standardised death-rate, which in 1861–70 had averaged 21·3 per 1000, was only 12·9 in the year under notice, the fall since 1895 having been rapid. The death-rate of males exceeds that of females at all ages except those of childhood, when mortality is at its lowest. Up to the year 1860 the excess had been 6 per cent., but for the last 15 years it has averaged 14 per cent. The excess of mortality among males in infancy and from tuberculous phthisis, pneumonia, and violence together amounts to more than the total excess from all causes, which would have been 38 per cent. greater than it actually was but for the mortality of females from childbearing and from cancer of the generative organs—causes which are almost peculiar to the female sex. During the first year of life the excess in the mortality of males from all causes amounts to 0·761 per 1000 living at all ages, or nearly half the total male excess. In recent years the fall in mortality has occurred at all ages, but it is inconsiderable in old age. In the year 1912 the mortality up to 35 years for males and to 45 for females was at each stage from one-third to one-half of that recorded 50 years ago, but after these ages the fall has been comparatively slight. A striking feature in this report, as well as in its predecessor, is the constancy with which the mortality of both sexes in the North exceeds that of other parts of England. The lowest mortality is experienced by the Midlands and South except at ages beyond 85, when Wales shows to advantage. The most favourable mortality for young children of both sexes is recorded by the South and for the middle-aged of both sexes by the Midlands.

Mortality in Infancy and Early Childhood.

Of the deaths occurring during the year not less than 17 per cent. were those of infants who had not completed their first year of life. In proportion to children born these deaths were equal to 95 per 1000. This rate was below the average in the preceding decennium by 24 per cent. and also below the average in the years 1906–10 by 19 per cent. It was the lowest on record, the proportion of deaths in the nineteenth century having never fallen below 130 per 1000 births. These facts illustrate the rapidity with which infant mortality has recently fallen in England, as it has done in most other European countries. The local incidence of infantile mortality varies enormously. It is considerably higher under the conditions of town than of country life. In the year under review the rate for rural England was exceeded by 14 per cent. in the case of the smaller towns and by 33 per cent. in that of the county boroughs, but only by 12 per cent. in the case of London. The small excess in London shows how largely the adverse influence of urban surroundings on infant life may be avoided. The feature of chief interest in this connexion is the peculiarity of the geographical distribution of infantile mortality. In both sexes it was highest in the North and lowest in the South, the position of the Midlands being intermediate. Even in northern rural districts a higher death-rate than in London was experienced, the excess in the male sex not being compensated by any advantage in the female. Infantile mortality is highest in the smaller Welsh towns, but in other respects the position of Wales is similar to that of the North of England.

(To be continued.)

THE LANCET.

LONDON: SATURDAY, SEPTEMBER 12, 1914.

The War and the Health of the Country.

DURING the past month many annual and interim reports of medical officers of health from all parts of the country have reached us, some of which have been already reviewed or noted in our columns, while others will receive detailed attention as opportunity offers. A bird's-eye view of these reports shows on the whole a most satisfactory condition of the health of the country, the more recent accounts substantiating the messages of the annual statements, and this is a matter of high national importance in view of the present situation. In the wake of the European war there must follow, even in this so far favoured territory, unemployment, misery, poverty, and sickness; while there is also increased liability to the introduction of those diseases from without, which are commonly associated with a state of war. Great Britain, on the declaration of war, was, as regards the public health, in the position of those fortunate business men whom the outbreak found in possession of a large sum of ready money to meet the extraordinary demands of collapsing credit. There is shown in these reports in the main a drop in the death-rate and no undue prevalence of zymotic diseases, and it is probable that in some localities favourable conditions have been brought about by the good work that has been done in the way of public instruction. This taking of the public into hygienic confidence is a praiseworthy symptom of modern local government, and it is right that a similar policy should be employed with a direct eye on existing conditions. Mr. J. H. MARSH, the medical officer of health of Macclesfield, for instance, has given his locality some judicious instruction, along the lines suggested in these columns, as to economic forms of nutriment and the way in which to use them to the best advantage. Mr. GEORGE ADKINS, medical officer of health of Devon, has issued some plain instructions on safeguarding water supplies, on removal of refuse, on the storage of food, and the cleaning of dwelling-places. Dr. A. E. A. CARVER, of Birmingham, has recently addressed a lecture to women on the question of food values, in which he drew special attention to the feeding of children, and no more important information can be made public by the medical profession than that which assists parents to rear their offspring. It is extremely satisfactory to feel that as a nation we are starting on this long struggle with the general sanitary conditions in our favour. There is no doubt that we shall as a community require during the period of the war all the watchful care that the medical profession and the sanitary service can possibly give us, and it is the duty of every citizen to help to the best of his ability.

There is a side to the situation which, in their laudable desire to do all that is possible for the country in the time of war, our younger medical practitioners may lose sight of. All want to do their best, but all conceive that their best is "to get to the front" as medical men, or, failing that, to join the ranks as soldiers. It cannot be too emphatically stated that there may be a great strain upon the medical profession in the near future, and it is absolutely necessary that the population should be attended to, so that the country may be free from apprehension with respect to the general public health. Excellent arrangements are being made in different parts of the country whereby the practices of medical men who are with the colours should during their absence be looked after by their colleagues, and these and other factors have already conduced to the absence of a great many members of the medical profession from their usual places of employment. Added to this, the depletion of our hospital staffs is considerable, although the gaps are being adequately filled by those who for one reason or another are unable to give direct service themselves, though only too happy to replace younger men who have the better fortune to be eligible to serve with our forces. There has consequently been no shortage of medical men that has led to any untoward results as yet, but we would quite gravely repeat here the words which Sir WILMOT HERRINGHAM has recently addressed to the students of his own hospital when warning them that the ordinary medical work of the country has to be carried on. "Most men," says the Vice-Chancellor of the University of London, "cannot leave their regular practice, and are doing far the best for the country by sticking to it. Students who are near their qualification had much better get qualified as quick as they can, and volunteer afterwards. Those who have advanced less far in their studies should, in my opinion, go on with them unless some clear opportunity comes in their way. The needs of the country are what we are all thinking of, and I am sure that it is of the greatest importance first that the civil hospitals should not be hampered by lack of clerks and dressers, and, second, that the usual supply of medical men should not be diminished by students hastily rushing off, though with the best of motives, to other work."[1]

A similar warning has reached us from an influential correspondent in Scotland, who says that, while the Scottish Medical Service Emergency Committee was at the beginning of September just able to supply deficiencies in civilian practice of all

[1] St. Bartholomew's Hospital Journal, September, 1914.

sorts, a busier time will lead to a great strain unless the young medical men of the country can be impressed with the fact that the civil population must be attended to as well as the military. It appears that there are in Scotland as well as in England a certain number of young medical men who are waiting for commissions, and for the present doing nothing else. If this is so we would impress upon them the necessity of turning their hands to any work that comes until they receive the anticipated call, expectation of which should not leave them idle.

The Report of the Select Committee on Patent Medicines.

THE report of the Select Committee on Patent Medicines, supplemented by the evidence on which the recommendations are based, constitutes the most complete and the only systematic exposure of the abuses of this form of quackery that exists in the English language. A large mass of invaluable material bearing upon the evils associated with the secret traffic in remedies has been collected and published in America, and a fearless review of the whole subject was issued by an Australian Royal Commission seven years ago. But important as these publications are they are overshadowed by the work accomplished by the Select Committee which was appointed by the House of Commons "to consider and inquire into the question of the sale of patent and proprietary medicines and medical preparations and appliances and advertisements relating thereto; and to report what amendments, if any, in the law are necessary or desirable." Those who followed the course of the inquiry, and especially those who heard the evidence of the string of witnesses representing the proprietary medicine interests, will not be surprised at the committee's conclusions; while it is not too much to say that the case for secret remedies suffered more severely from the defence than the attack, notwithstanding the device that was adopted by the proprietors of such goods in putting up several witnesses of undoubted reputation to advocate their cause. One of these witnesses, when asked by the chairman whether he was a fair representative of the patent medicine trade as a whole, very properly made the admission: "I hope I am not"; while as to some of the others—the actual proprietors of medicines out of which fortunes have been made by methods that the committee describes as fraudulent—they were condemned out of their own mouths. We complete this week the publication of the full report,[1] for no extracts adequately show its force. The examination of representatives of Government departments and various legal authorities revealed the fact that the existing abuses are due to a state of lawlessness, since "for all practical purposes British law is powerless to prevent any person from procuring any drug, or making any mixture, whether potent or without any therapeutical activity whatever (so long as it does not contain a scheduled poison), advertising it in any decent terms as a cure for any disease or ailment, recommending it by bogus testimonials and the invented opinions and facsimile signatures of fictitious physicians, and selling it under any name he chooses, on the payment of a small stamp duty, for any price he can persuade a credulous public to pay." In these circumstances it is not surprising that something like three million pounds sterling is spent each year in this country on secret medicines, or that individual firms, engaged in a traffic practically uncontrolled by law, have accumulated enormous fortunes. It has never been asserted by any responsible body that all proprietary remedies are objectionable, and the statement in the report that these medicines differ in character from "valuable scientific preparations" to a "mere vulgar swindle" can be corroborated by all who have studied the question. At one end of the scale is the large group of genuine drugs, originally produced synthetically, or extracted from crude compounds by skilled chemists and tested by therapeutists, and manufactured in pharmacological laboratories; and at the other end are remedies for which grossly exaggerated or mendacious claims are made.

When at some future date the Legislature can return to the performance of its normal functions, one of the most useful tasks lying to its hand should be to embody in an Act of Parliament the recommendations of the Select Committee. They are in every case recommendations which can be considered and enforced without reference to the dictates of party politics, and they make no demand for the construction of complicated administrative machinery, although they propose that a duty of the State, hitherto ignored and assigned to no department, shall be performed by the Local Government Board, or, when such a department is brought into being, by a Ministry of Public Health through a competent officer appointed for the purpose. This duty of the State, which has long lain before unnoticing eyes, is, we need hardly say, the protection of the public health and of the public pocket from the depredations of a horde of traders whose machinations have brought misery on every side. There must be a considerable lapse of time before legislation will ensue, but it will be of advantage to the public if medical men consider the suggestions of the committee closely, so as to be able to lend the movement for reform their full support. In one particular of undeniable importance the report will disappoint those who as a matter of principle condemn any State recognition or legalisation of the sale of secret remedies. We refer here to paragraph 53 of the report, headed "Exhibition of Formula," and to the recommendations affecting this branch of the inquiry. The committee does

[1] THE LANCET, Sept. 5th, p. 653, and Sept. 12th, p. 702.

not see its way to ask that every remedy sold should be legally compelled to bear a label stating its exact composition, and the reasons which it states in justification of its views are entitled to their full weight, even if we may not altogether accept the conclusion reached. The committee advises that an exact statement of the ingredients and the proportions of the same of every proprietary remedy and kindred article, with full therapeutic claims, shall be lodged with the new department to be instituted in connexion with the Local Government Board. The information thus furnished is to be checked by the department, which is to have the power to make the necessary analyses, and to enforce compliance with the law before a special court constituted in the public interest to permit or to prohibit the sales or advertisements of any proprietary remedy. We are not without hope that Parliament may go beyond the recommendations of the committee, even if the general disclosure of formulæ, a course which has been strongly urged by the medical witnesses in the course of the inquiry, cannot be adopted.

It is proposed that all advertisement and sale of medicines, except, of course, under a doctor's order, shall be forbidden when they purport to cure cancer, consumption, lupus, deafness, diabetes, paralysis, fits, epilepsy, locomotor ataxy, Bright's disease, and rupture without operation or appliance. This provision by itself will put out of bounds entirely some of the happiest hunting grounds of the fraudulent, and we can surmise that, following existing precedents, the above list will appear in a schedule to any Act of Parliament which may ensue, power being given to the department to make additions to the list. It will be noticed that venereal disease has not as yet been included in the list. The committee desires, however, to see prohibited all advertisements of remedies for diseases arising from sexual intercourse or referring to sexual intercourse as well as all advertisements likely to suggest that a medicine is an abortifacient. It is also recommended that medicated wines should not have the advantage of any secrecy so far as the proportion of alcohol contained in them is concerned. The committee finds that there can be no doubt that many persons acquire the "drink habit" by taking these wines and that grave injury is caused to the public by the existing large sale. It will also be observed that vendors of those remedies which remain secret will have to conform to a discipline which should restrict the activities of the more disreputable among them considerably. We refer more particularly to the examination which will be made of the therapeutic claims put forward by them. Often the advertisements of patent remedies recommend their use for cases which they cannot benefit, thus causing the purchaser to run the risk of serious injury through not securing medical treatment in time. With regard to the non-secret preparations which owe their value to skilful combination, the committee finds, naturally, that there is nothing in connexion with these products calling for interference.

The whole range of patent and proprietary remedies and appliances are dealt with in this report, and as a perusal of the findings and recommendations will show, measures are suggested for restricting and regulating their sale. All thinking people will welcome the adoption of the recommendations that a Ministry of Public Health should be created, part of whose duty it would be to regulate the traffic in proprietary medicines, and that the formulæ of all secret remedies should be required to be communicated to that department, as well as the proposal that a special commission should be constituted with power to prohibit the sale and advertisement of such remedies as are contrary to the public interest. The proposal to prohibit the sale of "cures" for incurable diseases and the special measures suggested for the suppression of the sale of abortifacients represent the least that can be done to abolish an intolerable state of affairs. With the opinion of the committee that no measures of smaller scope than those suggested will secure for the public efficient and urgently needed protection against injury and fraud there will be cordial agreement. The committee has disclosed in no unmistakable way fraudulent practices of a most abominable character, and it has made proposals for stopping these frauds; it now remains for the recommendations to be embodied in an Act of Parliament. But anyone who supposes that great opposition to such legislation is not assured does not realise how vast are the interests involved. While we lag behind other countries and other parts of the British dominions in tolerating the conditions of chaos revealed by the report, none must ignore the difficulties that may impede remedial legislation even when a more favourable time for it than the present supervenes. The committee has shown itself anxious not to disturb the vested interests of the better class of manufacturer of proprietary articles of a medical character, but the residue, for whose interests we are not concerned, is not likely to submit tamely to the diminution or destruction of its profits, and those who have profited largely by the systematic and ingenious advertisement of the patent medicine trade will have to be reckoned with. An individual fortune of £1,111,000 left by a pill-maker and an annual sum of £2,000,000 spent on advertisements by the trade generally are among the figures cited in the report, which will show that a Bill upon the lines recommended, whether it be treated as a political measure or not, will not be allowed to go through without strong opposition. The matter is therefore one which must not be allowed to drop or to be forgotten, although the pressure of national affairs to-day may compel the awaiting of a more convenient opportunity. Let us, however, hope that that opportunity may present

itself before very long in an era of renewed peace, and that in the not too distant future reawakened commercial enterprise may find no place left for the misapplied ingenuity and pernicious activity of the quack medicine vendor.

Annotations.

"Ne quid nimis."

THE QUESTION OF ANTITYPHOID VACCINATION: RECENT ITALIAN EXPERIENCE.

Professor Lustig, of Florence, has submitted a communication on this subject to the Italian Minister of Marine. In it he draws attention to the praiseworthy initiative of the Chief Inspector of Hygiene, by which optional antityphoid vaccination was introduced into the navy, and to the good results already obtained in the sense of a marked reduction of this disease among those vaccinated. The efficacy of this prophylactic measure, however, is, according to Professor Lustig, frustrated, or at least considerably restricted, by the fact that it is not obligatory. Some, owing to their natural laziness as much as to general repugnance, will not submit to medical interference of a compulsory character, even if it is of a slight nature and free from inconvenience; owing also to lack of education on matters of hygiene, it is a fact that many will not undergo this vaccination, which has its main advantage when done on a massive scale and over a wide area. To secure its result it is necessary, in Professor Lustig's opinion, that such vaccination should be compulsory in the army and navy, as it is in Japan, the United States, and some other countries. Its absolute harmlessness is a more than sufficient guarantee to the State against possible judicial and moral responsibility. The efficacy of the results, however, is only obtainable when the vaccination is practised under the most favourable conditions in every respect. Professor Lustig does not place complete faith in highly optimistic statistics, whether civil or military. In his exhaustive report on antityphoid vaccination at the Twenty-third Congress of Medicine, Dr. Moreschi observed that the diversity of results obtained in France were illustrated by an enormous reduction of mortality from 168·44 per 1000 among unvaccinated to 0·18 per 1000 among vaccinated; in Germany and England, on the other hand, the mortality fell respectively only from 99 to 55 per 1000 and from 30 to 5 per 1000. According to both Moreschi and Lustig the English statistics reflect more exactly the value of this prophylactic measure. In Italy it has not been hitherto possible to carry out this vaccination with the precision employed in England and Germany. The Pfeiffer-Kolle and the Vincent vaccine have, for example, been used promiscuously on the same individual and vaccine of more than a year old has been utilised. Again, statistics take no note of persons who have already passed through an attack of typhoid fever, nor do they state whether individuals vaccinated in 1912 and revaccinated in 1913 were attacked. Neither does it appear what practical and scientific considerations induced those in authority to prescribe very small vaccinal doses, since the intensity of the reaction observed in those vaccinated is not a satisfactory scientific criterion. In order that these and similar mistakes may be avoided, Professor Lustig is of opinion that there should be specialisation, or at least special technical instruction, in regard to those who are entrusted with the carrying out of these vaccinal methods.

A PHYSICIAN OF ANCIENT SARDIS.

WE have on many occasions written of the medical personalities of ancient Greece and Rome, concerning whom archæological research has come upon some details. We may particularly refer to the case of Menophantos, the public or municipal physician of Amphissa, near to Delphi,[1] and to that of Aurelius Heron and Aurelius Didymus, public physicians of Oxyrrhynchus.[2] Another name has now to be added to these prosopographia of medical men in classical times. It is that of a practitioner at Sardis, in Asia Minor, whose memorial has been found by United States explorers when excavating upon the site of that ancient Lydian and Roman city. The inscription reads as follows: "Artemas a physician (*ἰατρός*) built this tomb for himself, and for Melitene his wife, and for his heirs; he is living." The title of "iatros" may suggest that Artemas also was a public physician. Such medical officers were very frequently employed by the Greek cities of Asia Minor, and in inscriptions their official epithet, such as *δημόσιος* or *δημοσιεύων*, was commonly omitted. The usual number in office in a town varied from 5 to 10.[3] The nearest date assignable to this new text is the first century B.C.

THE SEAT OF FUNCTIONAL HEART-BLOCK.

THERE elapsed a considerable interval of time between the discovery that under certain conditions the auricles could beat independently of the ventricles, and the further evidence that lesser degrees of heart-block could be caused by such influences as vagal stimulation or drugs such as digitalis. Whilst the former gross forms of heart-block are recognisable in many cases by the extraordinarily slow pulse and frequent syncopal or epileptiform seizures, the lesser degrees of block, causing, perhaps, only a lengthening of the interval between auricular and ventricular systoles, cause no disturbance of either pulse rhythm or rate. The latter forms of block may arise from slight lesions of the bundle of His; they may also arise from the causes above noted. It is now known, further, that the conducting system is made up of several parts; there is the auriculo-ventricular node at the "top" or auricular end of the bundle; then the bundle proper—a short, tiny structure; then its two branches to the right and left ventricle respectively; and, finally, its terminal branches within the main ventricular mass. It has now become important to discover at what particular site or sites in this system functional block occurs. If block occurs at any one of the constituent structures, the end result, namely, disturbance of auriculo-ventricular sequence, is the same. The degree or type of block will therefore not assist in this matter. Some valuable observations relating to this subject have been made by Dr. T. Lewis and these are published in *Heart* (1914, vol. v., p. 247). His

[1] THE LANCET, March 7th, 1903, p. 676.
[2] THE LANCET, Feb. 27th, 1909, p. 636.
[3] See Pohl De Graecorum Medicis Publicis, 1905.

observations were made upon dogs, and electric curves demonstrated the effects induced. By slowing the heart rhythm at the sinus—the normal site of origin of the heart's contraction—he produced what is known as the *a.-v.* rhythm (nodal rhythm). In such a rhythm the heart's contraction is initiated at the *a.-v.* node, not the sinus, and as a result auricles and ventricles contract practically simultaneously. When such a rhythm was induced vagal stimulation was applied. The result of this procedure is important. Instead of producing a "forward" or typical heart-block, a block in which the ventricle follows the auricle, but at a longer time interval, the reverse occurred; the auriculo-ventricular interval, which in *a.-v.* rhythm may be 0·04 second, instead of the normal 0·12 to 0·16 second, is still further reduced. The interval may be *nil*, or even a minus quantity. Such a result shows that the block is situate between node and auricle, since the pause between node and auricle delays the latter and so pushes it later and approximates its time-incidence to the ventricle. Functional block, then, has its seat at or in the immediate auricular vicinity of the *a.-v.* node. The observations showed also an additional fact. It was demonstrated that vagal action is more powerful upon the *a.-v.* node than upon the sinus. The value of this effect is obvious. If it were not so, it is possible that with high heart rates, such as those following exercise, an *a.-v.* rhythm would be readily induced, but the associated controlling effect of the vagus sustained during exercise upon the *a.-v.* node to a greater relative degree ensures little opportunity for its rhythmicity to exceed that of the sinus and thus initiate the rhythm. In this way the normal *a.-v.* sequence is preserved over wide variations of rate. The observations are of much value and reveal, incidentally, in a rather unexpected manner still another protective mechanism for preserving intact, under wide possible variations of conditions, the heart's vital action.

THE ETIOLOGY AND CURE OF PELLAGRA.

Professor Alessandrini and Professor Scala have recently published in the form of a large pamphlet containing excellent coloured reproductions of histological and other specimens a communication made by them last year to the Royal Academy of Medicine at Rome under the auspices of the Commission on Pellagra.[1] Their researches have led them to two fundamental conclusions: (1) that pellagra is not dependent on a maize diet; and (2) that it is a disease strictly localised and limited to areas where water is drunk which has been almost exclusively in contact with a clay soil. Hitherto it had not been suspected that common mineral substances, in the quantities present in drinking water, could provoke immediate or delayed disturbances of health, and it was only investigations as to the quality of the soil which was the source of the water drunk in pellagrous districts that led Professor Scala to formulate the suspicion that silicic acid in a colloidal state could produce a chronic intoxication such as is observed in pellagra. Ninety-four experiments were undertaken on monkeys, rabbits, guinea-pigs, and puppies, and consisted in the administration of silica in colloidal solution and in a gelatinous state by subcutaneous and intraperitoneal injection and also by mouth. The effect was an intoxication with symptoms and pathological changes similar to those observed in pellagra. These experimenters also found that a similar intoxication was produced by the administration by mouth, mixed with bran, of water obtained from the pellagrous district of Gualdo Tadino; and, moreover, that the feeding of animals exposed to the action of silica with maize had no effect in aggravating these symptoms, proving thereby that maize has in no sense a contributory action. The effect of silica on the organism is to cause a retention of salts, whence there ensues, first, excessive fixation in the tissues, and subsequently liberation of mineral acids, also excessive, which produce the pathological lesions noticed by the authors. Silica, therefore, acts in an indirect rather than in a direct manner, and it was found that its effects could be neutralised by intramuscular or subcutaneous injections of neutral citrate of sodium. The authors were thus led to make use of this fact in an attempt to cure pellagrous patients. Details are given of ten cases treated with daily injections of a 10 per cent. solution of trisodic citrate. That considerable improvement, if not cure, was obtained is evident from the photographs given in the pamphlet, and it may suggest the advisability of adopting this method of treatment in those cases of pellagra which are from time to time met with in this country.

[1] Contributo Nuovo alla Etiologia e Patogenesi della Pellagra. By Giulio Alessandrini and Alberto Scala. Tip. naz. G. Bertero, Via Umbria, Rome, 1914.

DEMENTIA PRÆCOX AND MALINGERING.

THAT the early symptoms of dementia præcox are such as to lead the practitioner to suppose that his patient is only pretending to be sick is the thesis supported by Dr. Hesnard, surgeon in the French Navy, in the *Archives de Médecine et de Pharmacie Navales*, in a recent article on the Importance of Absurd Answers in the Diagnosis of Insanity. Patients suffering from dementia præcox, just after the first onset, are, he says, as yet so little changed, and their mental powers are so slightly impaired, that it is difficult for the alienist to convince the friends of the patient, and even his medical advisers, that he is not wantonly perverse, but, on the contrary, stricken with a truly serious disease. Dr. Hesnard recounts his observations on a case, that of a man who, much run down owing to early phthisis, became excited one day in his barrack-room, and had to be sent to hospital. In hospital he soon became calm, and thereafter was generally vague and irrelevant in his answers to questions, and at times incoherent, though occasionally his answers were shrewd and amusing. He could be made to speak more rationally if he was sharply questioned and his slumbering self-control awakened. His friends thought he was shamming, and asked him what he was doing it for, and they pointed out to him that he need not sham to get out of the service, as he was going to be invalided for phthisis anyway. Dr. Hesnard, after considering the case closely, concluded that the patient was not a malingerer, and believed that he recognised in him the onset of dementia præcox. The man looked strange and haggard and always wore a weak smile. Quiet generally when alone, he became uneasy and agitated when observed. He mimicked his medical attendant cleverly and could talk brilliantly. This was not like a malingerer. The malingerer has a narrow range of ideas, brings back the conversation to the points about which

he has planned to deceive, repeats himself, and becomes ridiculous; he dare never be amusing. This patient's absurd answers were amusing. He speedily became worse, and died some three months later from tuberculous meningitis.

THE ENDOCRINE GLANDS.

THE organs of internal secretion, or endocrine glands as they are more briefly called, have been the subjects of a vast and increasing amount of study during the last few years at the hands of physiologists and pathologists all the world over. A great deal is known about these organs and their secretions, still more is suspected; and these suspicions are being published almost daily in medical literature, as theories, hypotheses, or explanations (so-called), to account for the most varied disturbances of health. This is indeed the kingdom in which the arm-chair theorist is nowadays king. A timely protest against this wave of speculation has recently been published[1] by Professor Gley, of Paris, in the form of a little book that is an expansion of a report made last year to the Section of Medicine at the Seventeenth International Congress of Medicine. Here a sound observer gives an admirable exposition of our present knowledge about these glands and their secretions and a very shrewd criticism of many of the ill-founded hypotheses, the "conceptions de cabinet," as Vulpian called them, that have been built up on that knowledge. Medicine has nothing to gain from the premature application of uncertain data furnished by experimental physiology, and Professor Gley's critical review showing why and wherefore this is so deserves to be widely read.

EMETINE IN THE TREATMENT OF CHOLERA.

IN the *Indian Medical Gazette* for July Dr. Renault, Director of the Sanitary Service of French India, has reported good results from the treatment of cholera by hypodermic injections of emetine, which was suggested to him by the remarkable effects of the remedy in dysentery. He finds that soon after injection the number of motions diminish and bile reappears in the stools, which by degrees regain their normal consistence, sickness subsides, and the action of the kidneys is restored. But in the last stage of the disease, characterised by marked loss of animal heat and anuria, when the vomiting and diarrhœa have ceased, the drug has no effect. If vomiting and diarrhœa are still present, although anuria has supervened, emetine has marvellous effects. Dr. Renault admits that other modes of treatment, notably the intravenous injection of isotonic or hypertonic saline solution, give as satisfactory results. But the injections have to be repeated in many cases several times in the 24 hours. In times of epidemics this treatment is impracticable in a large number of cases. Moreover, the natives of India dislike it, and refuse to submit to it. They are much more easily persuaded to submit to hypodermic injections. In a severe epidemic of cholera Dr. Renault obtained 73 per cent. of recoveries under the emetine treatment. This percentage would have been greater had not the treatment been applied with misdirected zeal by the *infirmiers* in desperate cases contrary to direction. The doses administered were 4 centigrammes of chlorhydrate of emetine per diem to patients above the age of 25 years; 3 centigrammes to patients between the ages of 15 and 25 years; 2 centigrammes betwen the ages of 8 and 15 years; and 1 centigramme between the ages of 1 and 8 years. Auxiliary treatment, such as draughts to stop the diarrhœa, injections of camphorated oil, caffeine and saline solution, and measures to mitigate the extreme cold of the body, should not be neglected.

[1] Les Sécrétions Internes. Paris: J. B. Baillière et Fils. 1914. 16mo. Pp. 96. Price 1.60 francs.

Sir Arthur Chance has been appointed a member of the First Senate for the National University of Ireland in succession to the late Sir Christopher Nixon.

WE regret to announce the death on Sept. 7th, at the age of 66, of Dr. Walter Holbrook Gaskell, F.R.S., the distinguished Cambridge physiologist.

"THE LANCET" HYGIENIC TEST FOR GAS FIRES.

WE continue to receive modern types of gas fires, with a request to submit them to the hygienic test which was originated in THE LANCET Laboratory early in the year. It is evident to us that the manufacturers generally speaking are desirous of supplying to the public only those gas fires which comply with this test. That is a very satisfactory state of affairs. We stated in an article in THE LANCET of April 4th, 1914, that we should be willing to undertake this test with any gas fires upon the market which may have been overlooked amongst the number chosen for the purposes of our report in the article referred to. We have since published further results of testing (*vide* THE LANCET, July 11th), and we now submit the results of an examination by the hygienic test of six gas fires submitted to us by the Richmond Gas Stove Company, Limited, of Academy-street, Warrington. The request was made to us early in May, and the fires were sent to us on the 15th of that month, but they were all 1913 models, and, in the light of the following results, it is clear that the standard of hygienic efficiency had been kept in view. One fire modelled by this company—the Renaissance—happened to have been included in our independent report made in April, and this gave very satisfactory results when tested in our Laboratory. The fires sent since (the "Period" series) bore the following names: (1) Louis, (2) Flambeau, (3) Georgian, (4) Tudor, (5) Bavarian, and (6) Renaissance. The results are set out in the following diagram:—

"THE LANCET" TEST OF GAS FIRES (the Richmond Gas Stove Company).

Name of fire	*Louis.*	*Flambeau.*	*Georgian.*
Without elbow	00000	00000	00000
2-ft. length attached ...	00000	00000	00000

Name of fire	*Tudor.*	*Bavarian.*	*Renaissance.*
Without elbow	00000	00000	00000
2-ft. length attached ...	00000	00000	00000

It will be seen that these fires all through did not permit the slightest escape of combustion products into the room tested under the conditions described. The diagrams show that the canopy

was examined at five different points, but in all cases the negative sign records a working hygienic efficiency. In the event of leakage the sign + would appear. When testing the fire in the open room, without a flue attachment or connexion with the fireplace chimney, the fire should be protected from external sources of disturbance, and this is easily done by guarding the fire during the test by a three-fold screen. No such precaution should be necessary when the fire is in its practical position at the fire-place on account of the increased pull given by the chimney. The test is a very delicate one, as indeed it should be, having regard to hygienic requirements. For ourselves we are inclined to accept that when by the open test a gas fire shows no leakage with, say, a 2-ft. flue attachment (supplied by the makers of the fire), all that is required by hygienic considerations has been done. However, it is obvious to us that manufacturers are prepared to construct a gas fire which shall pass the open test under the conditions described and without the help of a length of flue attached to its exit channel (the nozzle). It may be a refinement to insist upon this, but one thing is perfectly clear, that a fire passing this test will, from the hygienic point of view, be free from reproach under practical working conditions. This standard is reached by the complete series of gas fires submitted to us by Messrs. Richmond.

It is gratifying to find that we have initiated an important movement in regard to rendering this method of domestic heating acceptable from the hygienic point of view. We may well leave economical considerations to the gas fire industry, for clearly that industry is in good hands. The method will obviously not succeed unless heating results consistent with the cost of gas consumed are furnished. As a matter of fact, this is accomplished by the modern models of gas fires which we have examined, and the endeavour to gain the maximum heating efficiency without hygienic risk has met with a success which is pleasing to record.

Lastly, we hope that further attention will be given to the irritating noise made more or less by all atmospheric burners. This fact undoubtedly creates a prejudice against the gas fire, and the greater the noise the greater is the impression that the gas bill is going to be big. In the sick room, where the gas fire is of the greatest convenience and service, it is particularly desirable that the sound of gas and air being intermingled and injected should not disturb the rest or equanimity of the patient. We are glad to find that practical attention is being given to this matter with the view of removing the drawback, and amongst the "silencing" devices we have seen none that works more satisfactorily than the patent injector supplied with Messrs. Richmond's gas fires. We need not enter into the construction of this, but it is sufficient to say that we have had one of these silent fires under observation in a bedroom for several days and the result is very satisfactory. Quite close up to the fire a purring sound was audible, but at a distance of a few feet it was difficult to hear anything at all, while at the bedside in the middle of the room, some 8 feet away from the fire, nothing could be heard at all, and it seemed incredible that in spite of this gas was being consumed at the rate of about 30 feet an hour in a cheery red fire giving a genial warmth and comfortable aspect to the room.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

THE following appointments have been notified:—Deputy Surgeon-General (retired): P. W. Andrews to Portsmouth Dockyard (dated Sept. 2nd, 1914). Fleet-Surgeon: W. J. Blurblock to the *Invincible* (dated Sept. 2nd, 1914). Staff-Surgeons: J. H. Lightfoot to the *Victory*, additional, for disposal; and W. Bastian to the *Aurora*, on commissioning (dated Sept. 5th, 1914). Surgeon: W. H. King to Royal Marine Infirmary, Deal (dated Sept. 1st, 1914).

The undermentioned have been appointed Temporary Surgeons: A. L. Sutcliffe and C. C. Chance to the *Racer*, additional, for Osborne College; C. H. S. Taylor, H. C. Waldo, H. M. Scott, W. J. Jago, and M. Onslow-Ford, all to the *Victory*, additional, for Haslar Hospital; G. Sparrow and H. Wilkes, to the *Pembroke*, additional, for R.N. Barracks, additional, for disposal; G. Hamilton, H. L. D. O. Duckworth, B. A. Playne, and J. Rosswell, to the *Victory*, for R.N. Barracks, additional, for disposal; and C. E. S. Harris to the *Fearless*.

ROYAL NAVAL VOLUNTEER RESERVE.

The undermentioned have been appointed Surgeon: William Glyn Evans (dated August 26th, 1914). J. R. Kay-Mouat has been granted a temporary commission as surgeon, and appointed to the *Victory*, additional, for R.N. Division (dated August 31st, 1914). F. J. Hannan is restored to the list of Surgeons, with seniority of Oct. 6th, 1903. Probationary Surgeon: H. B. Padwick to the *Pembroke*, additional, for R.N. Hospital, Chatham (dated Sept. 4th, 1914).

ROYAL ARMY MEDICAL CORPS.

The undermentioned are granted temporary rank as follows whilst serving with the Australian Medical Unit (dated Sept. 2nd, 1914):—To be Majors: George Horne and Robert Dick. To be Captains: Robert Alley Rotherham Wallace, William Bradbridge Studdy, Walter Rupert Reynell, Randall Vivian McDonnell, Herschell Lawrence Levi Harris, Sydney Wentworth Patterson, and Mark Clayson Gardner. To be Temporary Quartermaster, with the honorary rank of Lieutenant: Thomas William Jent, late Serjeant-Major, Royal Army Medical Corps. To be Temporary Lieutenants (dated August 28th, 1914): Tom Bragg, Arthur Vernon Poyser, and Frank Anthony Hampton.

The undermentioned are granted the temporary rank of Lieutenant:—Dated August 31st, 1914: Ralph Johnson Tait, Robert William Walter Vaughan, John Macpherson Johnston, Robert Frew Young, Douglas Benham Spence, Herbert Cubitt Lucey, and Walter Justice Paramore. Dated Sept. 1st, 1914: John Percival Charles, John Higgins, William Wilson Ingram, Edmund Basil Jardine, Roy Russell Kerr, David Anderson Laird, John Gillies Priestly, Henry Albert Ronn, and Aubrey William Venables.

INDIAN MEDICAL SERVICE.

The King has approved the promotion of the following officers of the Indian Medical Service:—Colonel to be Surgeon-General: Thomas Grainger, C.B. (dated May 25th, 1914). Lieutenant-Colonel to be Colonel: William Rice Edwards, C.M.G. (dated May 25th, 1914). Captains to be Majors: Walter Scott Patton (dated Jan. 26th, 1914), and Brevet-Major Samuel Richard Christophers (dated March 1st, 1914).

The King has approved the confirmation of the commissions of the following Lieutenants on probation of the Indian Medical Service with effect from Jan. 31st, 1914:—George Henry Mahony, Gordon Covell, William Ross Stewart, Koty Venkata Ramana Rao, John Gregory Owen Moses, Hari Chand, Venkatasubba Mahadevan, Alured Charles Lowther O'Shee Bilderbeck, Jacob William van Reenen, Basil Fraser Beatson, Maurice James Roche, Nehchal Das Puri, Prabodh Chandra Roy, Jagannath Balkrishna Vaidya, Joseph Martin Reeves Hennessy, Alfred Glen Cowper, William Mawhood Lupton, Hubert Horan Brown, and Charles Henry Neil Baker.

The King has approved the admission of the undermentioned gentlemen to the Indian Medical Service:—To be Lieutenants: Dated August 1st, 1914: John Walter Pigeon, Maurice Lawrence Treston, Peter Vieyra, Bhamini Mohon Mitra, Philip Savage, Thomas Bond Paul, Amir Chand, Robert Lee, Nilkanth Shriram Jatar, Tadepally Sankara Sastry, Jamal-ud-din, Ferozeshah Bapuji Chenoy, Sadanala Bashiam Venugopal, Charles de Carteret Martin, and Joseph Henry Smith.

The King has approved the retirement from the Indian Medical Service of Lieutenant-Colonel Charles Duer (dated Nov. 28th, 1913).

SPECIAL RESERVE OF OFFICERS.

Royal Army Medical Corps.

The undermentioned Cadets and ex-Cadets of the Officers Training Corps to be Lieutenants (on probation): John Aloysius Musgrave (dated August 7th, 1914). Harold Larcom

Mooney, John Philip Macnamara, and Joseph Crawford Alfred McCalden (dated August 9th, 1914). Archibald Browning Mitchell (dated August 11th, 1914). Frederick Roland Studdert Shaw (dated August 13th, 1914). John James Balmanno Edmond and Arthur Cyril Bateman (dated August 16th, 1914). James Ronald McCurdie, David Cuthbert Barron, and Thomas Parr (dated August 19th, 1914). Douglas Morrison Milne Fraser (dated August 20th, 1914). John Wright Malcolm (dated August 21st, 1914). Clement Lovell (dated August 22nd, 1914). Bernard Goldsmith (dated August 25th, 1914).

The undermentioned to be Lieutenants (on probation): David Christopher Leslie Vey (dated August 8th, 1914). William Fotheringham and Austin Smith (dated August 20th, 1914). Archibald Watson Russell (dated August 22nd, 1914). Ernest Andrews Dyson (dated August 24th, 1914).

Supplementary to Regular Units or Corps: The undermentioned Lieutenants are confirmed in their rank: John McC. Orme, John Cullenan, George Perkins, Edward S. Rowbotham, and Frederick McKibbin.

TERRITORIAL FORCE.

Royal Army Medical Corps.

1st East Anglian Field Ambulance: Ffrangeon Roberts to be Lieutenant (dated Sept. 2nd, 1914).

Eastern Mounted Brigade Field Ambulance: Captain William Archibald to be Major (dated Sept. 5th, 1914).

North Midland Mounted Brigade Field Ambulance: To be Lieutenants: John Brentnall Stanley and Lionel Alfred Dingley (dated Sept. 5th, 1914).

1st South Western Mounted Brigade Field Ambulance: Ivan Cochrane Keir to be Lieutenant (dated Sept. 5th, 1914).

1st East Lancashire Field Ambulance: To be Lieutenants: Thomas Hayhurst, Robert Steele Young, and John Buckley (late Surgeon-Lieutenant, 2nd Volunteer Battalion, the Sherwood Foresters, Nottinghamshire and Derbyshire Regiment). Captain Albert Ramsbottom to be seconded (dated August 4th, 1914).

2nd East Lancashire Field Ambulance: George Battersby Jameson to be Lieutenant (dated Sept. 5th, 1914). Captain William F. Munro is seconded (dated August 4th, 1914), Captain Alexander Callam is seconded (dated Sept. 5th, 1914). Frederick Colin Bentz to be Lieutenant (dated Sept. 5th, 1914). Frederick Jeeves to be Lieutenant (dated Sept. 9th, 1914).

3rd East Lancashire Field Ambulance: Lieutenants to be seconded: Kingsmill W. Jones (dated August 4th, 1914) and William J. Reid (dated August 5th, 1914). Charles Bertram Marshall to be Lieutenant (dated Sept. 5th, 1914). William Pike Ferguson to be Lieutenant (dated Sept. 9th, 1914).

1st West Lancashire Field Ambulance: To be Lieutenants: James Walker and Thomas Courtenay Clarke (dated August 8th, 1914).

1st London (City of London) Field Ambulance: Captain Charles S. Brebner, from the Territorial Force Reserve, to be Captain (dated Sept. 9th, 1914).

5th London Field Ambulance: George Scott to be Lieutenant (dated Sept. 5th, 1914).

6th London Field Ambulance: To be Lieutenants: Henry Bryan Frost Dixon, Alfred Morgan Hughes, and Frederick Lucien Golla (dated Sept. 5th, 1914).

1st South Midland Field Ambulance: To be Lieutenants: Albert Edward Peel McConnell and Cyril Randolph Wallace (dated Sept. 5th, 1914). The date of appointment as Lieutenants of William Bowater and Morris Wilks is August 5th, 1914, and not August 19th, as stated in THE LANCET of August 22nd, 1914.

1st Northumberland Field Ambulance: Francis Metcalfe to be Lieutenant (dated Sept. 5th, 1914).

1st Welsh Field Ambulance: Donald Macaulay to be Lieutenant (dated Sept. 5th, 1914). Charles Bernard Francis to be Transport Officer with the honorary rank of Lieutenant (dated Sept. 5th, 1914).

3rd Welsh Field Ambulance: Captain David B. Chiles-Evans is seconded (dated August 8th, 1914).

2nd West Riding Field Ambulance: Hubert Wallace Symons to be Lieutenant (dated August 7th, 1914).

3rd West Riding Field Ambulance: John Pearson Mathews to be Lieutenant (dated August 6th, 1914).

3rd West Lancashire Field Ambulance: To be Lieutenants: Adam Annand Turner, Leonard Barron Baird (dated Sept. 5th, 1914), and Francis Statham Fletcher (dated Sept. 9th, 1914).

1st Lowland Field Ambulance: Lieutenant William F. Mackenzie to be Captain (dated August 18th, 1914).

2nd Wessex Field Ambulance: Henry William Spaight to be Lieutenant (dated Sept. 5th, 1914).

Yorkshire Mounted Brigade Field Ambulance: Captain George H. L. Hammerton to be Major (dated August 20th, 1914).

1st London (City of London) General Hospital: List of officers whose services will be available on mobilisation:—Major Howard H. Tooth, C.M.G., to be Lieutenant-Colonel (dated Sept. 2nd, 1914). The undermentioned Captains to be Majors (dated Sept. 2nd, 1914): Herbert M. Fletcher, Robert C. Bailey, John H. Drysdale, and Louis B. Rawling. The undermentioned to be Captains (dated Sept. 2nd, 1914): William Henry Girling Ball, James Hugh Thursfield, Harold William Wilson, William Bradshaw Ainger, Herbert Drayton Clementi-Smith, and Richard Gill; (dated Sept. 5th, 1914): Henry Gaskin Boyle, Reginald Cheyne Elmslie, William Douglas Harmer, Joseph Frederick Trewlby, Herbert Williamson, Alfred Bernard Pavoy Smith, George Harold Lawson Whale, Lionel Gordon Crossman, Martin Wright Kilman Bird, and Frank Atcherley Rose.

2nd London (City of London) General Hospital: Charles Archibald Lees to be Captain (dated Sept. 9th, 1914).

4th London General Hospital: Reginald Oliver Sibley to be Captain (dated Sept. 2nd, 1914). The undermentioned Lieutenant-Colonels are seconded, under the conditions of paragraph 112 of the Territorial Force Regulations (dated Sept. 9th, 1914): Sir William W. Cheyne, Bart., and George R. Turner.

3rd Northern General Hospital: The undermentioned to be Captains (dated Sept. 5th, 1914): Arthur Gurney Yates, John Black Ferguson Wilson, and Henry Cecil Snell.

4th Northern General Hospital: Herbert Cecil Barlow to be Captain (dated Sept. 5th, 1914).

4th Scottish General Hospital: The undermentioned to be Captains (dated Sept. 5th, 1914): Alexander John Archibald and William Herbert Brown.

3rd Southern General Hospital: Major Walter Tyrell Brooks to be Lieutenant-Colonel (dated Sept. 5th, 1914); and Captain Robert Long Gamlen (Indian Medical Service) to be Temporary Captain (dated Sept. 5th, 1914).

4th Southern General Hospital: The undermentioned to be Captains (dated Sept. 5th, 1914): Cornelius Frederick Glinn and Guy Stanley Earl.

5th Southern General Hospital: Major John Kyffin, from the list of officers available for service on mobilisation, to be Lieutenant-Colonel on the permanent personnel (dated Sept. 5th, 1914).

1st Eastern General Hospital: The undermentioned to be Captains (dated Sept. 9th, 1914):—John Foster Gaskell, Dalton Mallam, and Edward John Yelverton Brash.

2nd Western General Hospital: Major Ernest S. Reynolds to be Lieutenant-Colonel (dated Sept. 9th, 1914). The undermentioned to be Captains (dated Sept. 9th, 1914): Wilson Harold Percy Hey, John Philip Buckley, Frank Edward Tylecote, Donald Elms Core, and Sidney Rawson Wilson.

Attached to Units other than Medical Units.—To be Lieutenants: Eric Lewis Giblin, Alfred Evan Lewis Devonald, William Ernest Falconar, Arvor Jones, Grahame Patton, Martin Blenheim Howard Stratford, and Charles Wynn Wirgman (dated Sept. 5th, 1914). Surgeon-Major Henry Waite, from the Northern Command Signal Companies, Royal Engineers (Army Troops), to be Major (dated Sept. 5th, 1914). Captain James C. Herbertson is seconded (dated Sept. 9th, 1914). Captain William G. Sutcliffe is seconded (dated Sept. 9th, 1914). Lieutenant James McGlashan to be Captain (dated Sept. 9th, 1914). Lieutenant William Robert Murison to be Captain (dated Sept. 9th, 1914). Lieutenant Frederick W. Price resigns his commission (dated Sept. 9th, 1914). The appointment to the Territorial Force of Major George M. Dobson, Reserve of Officers, is cancelled.

TERRITORIAL FORCE RESERVE.

Royal Army Medical Corps.

Captain Charles G. Watson is seconded (dated Sept. 9th, 1914).

DEATHS IN THE SERVICES.

The late Surgeon-General Sir Anthony Dickson Home, K.C.B., V.C., whose death we announced in the Services column of THE LANCET of August 15th, left estate of the gross value of £24,607.

ROYAL DEVON AND EXETER HOSPITAL.—At the last meeting of the governors of the Devon and Exeter Hospital a tender for £5490 was accepted for the erection of the proposed new nurses' wing in connexion with the institution.

PRESENTATION TO A MEDICAL MAN.—On Sept. 4th, at a largely attended meeting, a public presentation was made to Dr. James Reid, of Portsoy, in recognition of the esteem in which he is held locally. Mr. J. E. Sutherland, M.P., on behalf of the subscribers, handed Dr. Reid a deposit receipt for £273.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

In the 97 English and Welsh towns with populations exceeding 50,000 persons at the last Census, 8817 births and 5016 deaths were registered during the week ended Saturday, Sept. 5th. The annual rate of mortality in these towns, which in the three preceding weeks had been 12·6, 12·3, and 13·6 per 1000 of their aggregate population, estimated at 18,120,059 persons at the middle of this year, further rose to 14·4 per 1000 in the week under notice. During the first nine weeks of the current quarter the mean annual death-rate in these towns averaged 12·4, against a corresponding rate of 12·3 per 1000 in the metropolis. Among the several towns the death-rate last week ranged from 4·3 in Bournemouth, 5·2 in Reading, 6·5 in Southport, 6·6 in Ealing and in Eastbourne, and 7·0 in Darlington, to 21·0 in Gateshead, 21·2 in Stoke-on-Trent and in Tynemouth, 21·6 in Liverpool, 23·9 in Middlesbrough, and 24·8 in South Shields.

The 5016 deaths from all causes were 296 in excess of the number in the previous week, and included 1189 which were referred to the principal epidemic diseases, against numbers steadily increasing from 394 to 890 in the eight preceding weeks. Of these 1189 deaths, 947 resulted from infantile diarrhœal diseases, 82 from measles, 69 from whooping-cough, 49 from diphtheria, 25 from scarlet fever, and 17 from enteric fever, but not one from small-pox. The mean annual death-rate from these diseases was equal to 3·4, or 0·8 per 1000 above the rate in the previous week. The deaths of infants (under 2 years) from diarrhœa and enteritis, which had steadily increased from 112 to 677 in the eight preceding weeks, further rose to 947, of which 269 were registered in London, 71 in Liverpool, 50 in Birmingham, 31 in Manchester, 25 in West Ham, in Stoke-on-Trent, and in Leeds, and 23 in Sheffield. The deaths referred to measles, which had been 111, 92, and 92 in the three preceding weeks, fell to 82, and included 24 in London, 13 in Oldham, 10 in Leeds, 6 in West Ham, 5 in Liverpool, and 4 in Sheffield. The fatal cases of whooping-cough, which had been 65, 51, and 52 in the three preceding weeks, rose to 69 last week, of which 22 occurred in London and 3 in Manchester. The deaths attributed to diphtheria, which had been 31, 32, and 35 in the three preceding weeks, further rose to 49, and included 7 in Birmingham, 6 in London, 3 each in Sheffield and Liverpool, and 2 each in Leyton, Brighton, Portsmouth, Bristol, Stoke-on-Trent, and Middlesbrough. The deaths referred to scarlet fever, which had been 19, 23, and 20 in the three preceding weeks, rose to 25 last week, of which 8 were recorded in London, 2 in Liverpool, and 2 in Preston. The fatal cases of enteric fever, which had been 14, 9, and 14 in the three preceding weeks, further rose to 17 last week, and included 3 in London and 2 in Portsmouth.

The number of scarlet fever patients under treatment in the Metropolitan Asylums Hospitals and the London Fever Hospital, which had been 3072, 3071, and 3216 at the end of the three preceding weeks, had further increased to 3318 on Saturday last; 548 new cases were admitted during the week, against 335, 414, and 536 in the three preceding weeks. These hospitals also contained on Saturday last 1093 cases of diphtheria, 63 of whooping-cough, 45 of enteric fever, and 13 of measles, but not one of small-pox. The 1332 deaths from all causes in London were 152 in excess of the number in the previous week, and corresponded to an annual rate of 15·4 per 1000. The deaths referred to diseases of the respiratory system, which had been 116, 143, and 132 in the three preceding weeks, further fell to 128 in the week under notice, but were 4 above the number in the corresponding week of last year.

Of the 5016 deaths from all causes in the 97 towns, 178 resulted from various forms of violence, and 360 were the subject of coroners' inquests, while 1479 occurred in public institutions. The causes of 44, or 0·9 per cent., of the total deaths were not certified either by a registered medical practitioner or by a coroner after inquest. All the causes of death were duly certified in Leeds, Bristol, West Ham, Bradford, Hull, Nottingham, and in 72 other smaller towns. Of the uncertified causes of death, 7 were registered in Birmingham, 6 in Gateshead, 5 in Liverpool, 3 each in London and Tynemouth, and 2 each in Gillingham, Stoke-on-Trent, Warrington, Manchester, South Shields, and Newcastle-on-Tyne.

HEALTH OF SCOTCH TOWNS.

In the 16 largest Scotch towns with an aggregate population estimated at 2,293,200 persons at the middle of this year, 1145 births and 703 deaths were registered during the week ended Saturday, Sept. 5th. The annual rate of mortality in these towns, which had been 13·8, 15·0, and 14·4 per 1000 in the three preceding weeks, rose to 16·0 per 1000 in the week under notice. During the first nine weeks of the current quarter the mean annual death-rate in these towns averaged 13·7, against 12·4 per 1000 in the 97 large English towns. Among the several towns the death-rate last week ranged from 10·1 in Motherwell, 10·5 in Leith, and 10·8 in Hamilton, to 18·1 in Glasgow, 18·8 in Paisley, and 18·9 in Ayr.

The 703 deaths from all causes were 72 in excess of the number in the previous week, and included 121 which were referred to the principal epidemic diseases, against numbers increasing from 49 to 100 in the five preceding weeks. Of these 121 deaths, 89 resulted from infantile diarrhœal diseases, 16 from whooping-cough, 8 from diphtheria, 4 from scarlet fever, 3 from measles, and 1 from enteric fever, but not one from small-pox. The mean annual death-rate from these diseases was equal to 2·8, against 3·4 per 1000 in the 97 large English towns. The deaths of infants (under 2 years) attributed to diarrhœa and enteritis, which had steadily increased from 29 to 64 in the four preceding weeks, further rose to 89, of which 61 were recorded in Glasgow, 5 each in Edinburgh, Dundee, and Greenock, and 4 in Coatbridge. The deaths referred to whooping-cough, which had been 16, 13, and 15 in the three preceding weeks, were 16 last week, and comprised 13 in Glasgow, 2 in Greenock, and 1 in Dundee. The fatal cases of diphtheria, which had been 7, 11, and 6 in the three preceding weeks, rose to 8, of which 3 occurred in Aberdeen. The 4 deaths attributed to scarlet fever, of which 2 were registered in Glasgow, were slightly below the average in the earlier weeks of the quarter. The 3 deaths from measles, comprising 2 in Glasgow and 1 in Dundee, were 3 below the average in the earlier weeks of the quarter. The fatal case of enteric fever was recorded in Falkirk.

The deaths referred to diseases of the respiratory system, which had increased from 55 to 70 in the four preceding weeks, fell to 65 in the week under notice, and 30 deaths were attributed to various forms of violence, against 33 and 25 in the two preceding weeks.

HEALTH OF IRISH TOWNS.

In the 27 town districts of Ireland with an aggregate population estimated at 1,205,280 persons at the middle of this year, 606 births and 419 deaths were registered during the week ended Saturday, Sept. 5th. The annual rate of mortality in these towns, which had been 15·3, 16·1, and 17·6 per 1000 in the three preceding weeks, further rose to 18·1 per 1000 in the week under notice. During the first nine weeks of the current quarter the mean annual death-rate in these towns averaged 16·2, against corresponding rates of 12·4 and 13·7 per 1000 in the English and Scotch towns respectively. The annual death-rate last week was equal to 18·9 in Dublin (against 15·4 in London and 18·1 in Glasgow), 20·3 in Belfast, 11·6 in Cork, 12·7 in Londonderry, 17·6 in Limerick, and 15·2 in Waterford, while in the 21 smaller towns the mean death-rate was 16·6 per 1000.

The 419 deaths from all causes were 13 in excess of the number in the previous week, and included 84 which were referred to the principal epidemic diseases, against numbers increasing from 40 to 91 in the four preceding weeks. Of these 84 deaths, 74 resulted from infantile diarrhœal diseases, 3 from whooping-cough, 2 from measles, scarlet fever, and diphtheria, and 1 from enteric fever, but not one from small-pox. The mean annual death-rate from these diseases was equal to 3·6, against corresponding rates of 3·4 and 2·8 per 1000 in the English and Scotch towns respectively. The deaths of infants (under 2 years) attributed to diarrhœa and enteritis, which had increased from 18 to 67 in the four preceding weeks, further rose to 74, of which 44 were registered in Belfast, 17 in Dublin, and 3 in Londonderry. The deaths referred to whooping-cough, which had been 8, 7, and 7 in the three preceding weeks, declined to 3 last week, of which 2 occurred in Belfast and 1 in Cork. The deaths from measles and scarlet fever were registered in Belfast, the 2 deaths from diphtheria in Dublin, and the fatal case of enteric fever in Ballymena; in each case the deaths from these diseases last week were below the average in the earlier weeks of the quarter.

The deaths referred to diseases of the respiratory system, which had been 46, 47, and 43 in the three preceding weeks, rose to 49 in the week under notice. Of the 419 deaths from all causes, 107, or 26 per cent., occurred in public institutions, and 8 resulted from different forms of violence. The causes of 11, or 2·6 per cent., of the total deaths were not certified either by a registered medical practitioner or by a coroner after inquest; in the 97 English towns the proportion of uncertified causes did not exceed 0·9 per cent.

KING'S COLLEGE HOSPITAL: OLD STUDENTS' DINNER.—The dinner of the past and present students of King's College Hospital arranged for Oct. 2nd next will not take place on account of the war.

Correspondence.

"Audi alteram partem."

ANTITYPHOID INOCULATION IN WAR TIME.

To the Editor of THE LANCET.

SIR,—On several occasions recently reference has been made in the press to the advisability of inoculating our troops against typhoid fever before sending the men abroad. The high necessity of this procedure does not appear to be sufficiently recognised. Yet our experience in the South African war showed that were typhoid fever to break out among such masses of men it would destroy many more lives than the fire of the enemy could do.

So necessary and so effective is this precaution that we would press on all commanding officers the importance of seeing that inoculation is widely carried out, especially in the case of all men who are likely to be sent abroad. It should, in our opinion, be made compulsory. Moreover, for reasons which are known to those most experienced, inoculation ought to be performed at least a fortnight before the man leaves this country. The procedure is simple and but little inconvenience is suffered.

We know that the officers of the Royal Army Medical Corps are overburdened with work at present. They are doing what they can. To save them this additional work we suggest that arrangements could be made so that Fellows of our respective colleges would undertake the task of inoculation. The laboratory of the Royal College of Physicians is prepared to supply the necessary vaccine, and when the organisation is complete we calculate that many hundreds of inoculations could be performed each week.

This matter is not only extremely important but also very urgent. It is on these accounts that we venture to ask you to give this letter some prominence in your columns.

We are, Sir, yours faithfully,

J. J. GRAHAM BROWN,
President of the Royal College of Physicians.

F. M. CAIRD,
President of the Royal College of Surgeons.

Edinburgh, Sept. 7th, 1914.

WANTED, AMBULANCE MEDICAL OFFICERS.

To the Editor of THE LANCET.

SIR,—Eleven officers (medical men) are required to complete the establishment of the 3rd East Anglian Field Ambulance—a home and foreign service ambulance. Applications, stating age, should be sent here *at once* to me.

I am, Sir, yours faithfully,

A. GRAHAM, M.B. Glasg.,
Captain, Acting O.C., 3rd E.A.F.A., Home Service.

Headquarters, 3rd East Anglian Field Ambulance,
Church Hill, Walthamstow, Sept. 9th, 1914.

THE RELATION OF FISH TO LEPROSY.

To the Editor of THE LANCET.

SIR,—Dr. J. M. Dalziel's letter on the above subject which appeared in your issue of August 22nd is another proof of the similarity which exists between Northern Nigeria and the Anglo-Egyptian Sudan in respect to matters medical and hygienic. I do not wish to discuss at any length the vexed question of leprosy and fish-eating, but, merely in the light of Dr. Dalziel's remarks upon the *Siluridæ* of Northern Nigeria, to direct attention to the observations of Captain R. G. Anderson, R.A.M.C., in Southern Kordofan. These will be found summarised on p. 107 of the first Review Supplement (1908) of the Wellcome Tropical Research Laboratories, Khartoum, and it will be seen that they tend to incriminate imperfectly cured mud fish. I secured some examples of these *Siluridæ* from Lake Keilak for the leprosy exhibit at Ghent last year, and found they belonged to the genus *Clarias*. The following is the note written at the time and taken from Captain Anderson's report:—

> This fish is caught in large numbers by the natives. It is eaten by Arab and Nuba alike with great relish, and is prepared by rough opening and cleaning, after which it is split or cut into slices and hung up to dry, at first in the sun and subsequently over smoke. Prepared in this manner it is carried from place to place by the itinerant vendor, finding its way to all the surrounding villages as well as to the Kadugli *sûk*. In the parched centre north of the province, there is *no* fish traffic of any sort and *no signs of endemic leprosy*.

A specimen of the fish will be placed in the museum here, but in considering the possible relationship of these fish to leprosy it is well to bear Dr. Dalziel's warning in mind and not to lay too much stress on native ideas. When in the Republic of Colombia I was told that there were many lepers in districts where fish was never eaten, and this is of course true in many parts of the world. At the same time, I am inclined to think that a dietary of badly cured and decomposing fish does in some way predispose to leprosy. I believe that Southern Kordofan, like Northern Nigeria, would be an excellent place to study this question, which has not yet been fully investigated and certainly deserves further attention.

I am, Sir, yours faithfully,

ANDREW BALFOUR,
Director-in-Chief, The Wellcome Bureau of Scientific Research.

10, Henrietta-street, W., Sept. 5th, 1914.

ORAL SEPSIS AND THE EXTRACTION OF TEETH.

To the Editor of THE LANCET.

SIR,—There can be no doubt the medical profession is indebted to Sir James Goodhart for his letters on the subject of pyorrhœa, for, as Mr. S. Spokes so well pointed out in his letter, there is teaching that has a very dangerous tendency, so far as the public's teeth is concerned, prevalent in the medical and dental profession.

This is not surprising, having in view what is called "the swing of the pendulum." Well within my memory doctors attached no importance to dental lesions and troubles until abscesses had formed at the roots of teeth, and then the patients were forbidden to have the offender removed until the swelling had gone down. The pendulum is now well over the other side. Quite recently a patient of

mine of long standing, a most cleanly lady, whose mouth was very carefully kept, was told by a distinguished surgeon to come to me because she had pyorrhœa, yet all that was wrong was a little grey tartar that accumulates and is periodically removed. She was much disturbed, but quite ready, had I so recommended, to have all her teeth removed.

There must be no mistake, however. There are cases of pyorrhœa to-day the treatment for which is certainly extraction, and just as certainly there are cases of septic auto-inoculation due to pyorrhœa just as there are cases of so-called rheumatism due to gonorrhœa; but fortunately for the future of the race it is not considered necessary to remove the organ from which the sepsis is absorbed, nor is it necessary to remove the teeth save in exceptional cases until at any rate all curative measures have been tried. There are cases of pyorrhœa that I have seen with quite severe symptoms which have entirely cleared up after a voyage or long holiday which appear to be due to some want of resistance in the individual or constitutional disturbance as though the disease was a manifestation of some distant bacterial invasion, which revived health had cured.

I fear a great number of young people who are having their teeth removed and having artificial substitutes are laying up for themselves and others a rather unhappy state of affairs. It is well known to dentists how difficult it is to keep the lower denture in place in an old edentulous mouth, and I fear dinner parties in the near future will be accompanied by a clatter of porcelain that will make conversation trying, to say the least of it. I was lunching recently at a house where the clattering of the lower denture against the upper one was most noisy and disconcerting. The public nowadays talks pyorrhœa somewhat in the same way a few years ago it talked appendicitis. I was at Llandrindod Wells for three weeks at Easter, and in the hotel the one subject of conversation was pyorrhœa and its treatment by certain of the doctors there, who, the patients said, for pains and aches in limbs and joints advised extraction of teeth. I venture to enter into this controversy purely with the object of pleading for a little less heroic treatment, for, after all, wooden legs are poor substitutes for the genuine article, and many a limb condemned at first sight by the surgeon has subsequently been saved by treatment and patience.

All pyorrhœa does not require extraction, that is the truth and needs insisting on, and which Sir James Goodhart has helped by his timely letter to establish.

I am, Sir, yours faithfully,

Cavendish-square, W., August 24th, 1914. MORTON SMALE.

To the Editor of THE LANCET.

SIR,—I have read the correspondence on oral sepsis in THE LANCET with much interest. Some time ago 22 hearts were shown at one medical meeting. They were all found to be infested with micro-organisms identical with those found in the patients' tooth sockets. Not long since one of my patients developed a febrile condition which was at first obscure. A bacteriological examination was made and pathogenic germs found round a crowned tooth stump. In spite of treatment the patient died. The heart was infected by these micro-organisms and no doubt caused death.

For many years I suffered myself from dyspepsia, constant "colds," &c. I decided my teeth were to blame, and I had them all out against the advice of my dentist and some medical friends. I have never regretted it. I am better in every way and do not mind the very slight difficulties of speech and mastication. The affectionate manner in which some people cling to hideous old wrecks of teeth, that offend the eyes and nasal organs of their friends, may say much for their constancy but little for their good taste.

I am, Sir, yours faithfully,

W. J. MIDELTON, M.R.C.S. Eng.,

Bournemouth, Sept. 7th, 1914. L.R.C.P. Lond.

ARTHRITIS DEFORMANS OF THE HIP-JOINT.

To the Editor of THE LANCET.

SIR,—Will you kindly give me leave to say that I am exceedingly gratified to find the authors of the paper on Osteo-arthritis of the Hip, published in THE LANCET of August 8th, agreeing with me that so-called sciatica is often, if not always, a symptom of the oncoming of that crippling disorder?

I ventured—greatly daring—to enunciate this opinion in my little book on "Sciatica, a Fresh Study," published more than a year ago, which I had come to long before then; and I feel confident as time goes on this view will be more and more accepted as correct, and that, as the authors say, "in all cases of so-called sciatica investigation of the movements of the hip should be undertaken."

I have been refreshing my memory by a reperusal of Dr. Adam's, of Dublin, "Treatise on Rheumatic Gout." We have travelled a long way from accepting the evidences furnished by morbid anatomy as *explaining* the natural history of disease. The new field of biological chemistry and the part played by the closed glands are leading us far from the dry bones of the old solidist pathology.

Whether sciatica as referring only to the sciatic nerve is a misnomer, seeing that the anterior crural branches seem more or less frequently affected, as Dr. R. Ll. J. Llewellyn and Dr. A. Bassett Jones have found, only strengthens the arguments in favour of a genuine morbus coxæ, which was the point I wished to prove. I may here be allowed to explain that all the records I have given in my book were of private and not of hospital cases, and therefore not so complete as they would have been had I had the good fortune to have better opportunities of studying them at leisure in hospital.

I am, Sir, yours faithfully,

Dingwall, August 30th, 1914. WILLIAM BRUCE.

THE SURGEON'S POLE.

To the Editor of THE LANCET.

SIR,—In reply to Mr. H. A. Lediard in your issue of August 8th perhaps the following quotation from a book dated 1853 in my library may indicate in which direction to search for further information on the matter: "These two companies (Barbers & Surgeons) were, by an act of Parliament passed in the 32 Henry VIII. c. 41, united and made one body corporate, by the name of the Barbers and Surgeons of London." This Act, however, at once united and separated the two crafts. The barbers were not to practise surgery further than drawing of teeth; and the surgeons were strictly prohibited from exercising "the feat or craft of barbery or shaving." The surgeons were allowed yearly to take, at their discretion, the bodies of four persons after execution for felony, "for their further and better knowledge, instruction, insight, learning, and experience in the said science or faculty of surgery;" and they were, moreover, ordered to have "an open sign on the street-side

where they should fortune to dwell, that all the king's liege people there passing might know at all times whither to resort for remedies in time of their necessity." The nature of the sign is not stated, but may be in the Act itself. It is further stated that "the privileges of this company were confirmed in various subsequent charters, the last bearing date 15th April, 5th Charles I. By the year 1745 it was discovered that the two arts which the company professed were foreign to and independent of each other. The barbers and the surgeons were accordingly separated by Act of Parliament, 18th Geo. II., and made two distinct corporations." The footnote references are as follows: Pennant's London, p. 255; Stat. of the Realm, vol. i., p. 794; Edmondson's Compl. Body of Heraldry; Strype's edit. of Stow's Survey of London, b. v., ch. 12. Further particulars may also be found in "The History of Signboards," by Jacob Larwood and John Camden Hotten, published by the latter at London in 1866 (second edition), pp. 341–5, and a note on p. 25.

I am, Sir, yours faithfully,

August 30th, 1914. LUCUS.

ANNUAL REPORT OF THE MEDICAL OFFICER OF HEALTH OF BRISTOL.—The report issued for the past year by Dr. D. S. Davies, medical officer of health of Bristol, is more portly than any of its predecessors. It includes reports from the medical inspector of schools, a report on the work of the midwives in Bristol, remarks on the schools for mothers, a description of the administration of sanatorium benefit, and so on. The steady increase of all these subsidiary branches of the report gives a vivid idea of the growth of hygienic activities in recent times. A list of the principal voluntary hospitals and dispensaries in the city brings out the astonishing fact that in spite of the growing activity of the State in the care of the sick about 140,000 persons were treated charitably in 1913. This constitutes over one-third of the population of the city. Allowance must, of course, be made for the fact that many hospital patients are counted more than once, but even if a substantial margin be set aside for this one is constrained to wonder what is left for private practice after the charitable institutions and the State insurance and other services have been accounted for. The infant mortality rate remained low—97·5—and the birth-rate—22·4—continues the slight rise which was manifested in 1912 for the first time after a steady decline lasting over many years. Scarlet fever was very prevalent during 1913, a total of 1738 cases being recorded, as against 580 in the preceding year; but the case mortality was very low, only 0·3 per cent. The hospital accommodation was so inadequate that less than half the cases in which transference to the hospital was recommended by the practitioner in charge could be removed. The number of beds provided by the fever hospitals is only two-fifths of the total number that should be available according to the regulations of the Local Government Board. The enteric fever total—64—is the smallest recorded in the city's history, and of these only 5 were fatal. The report calls attention to another direction in which there is a deficiency in the institutional accommodation; there are no beds for advanced cases of phthisis apart from 97 beds provided for pauper patients. In regard to the treatment of tuberculosis, it is noted that the number of new patients that attended the municipal dispensary in 1913 was 696, as against 885 in 1912, when it was at work on a voluntary basis. During the year 474 insured persons and 13 dependents received sanatorium benefit—211 in sanatoriums, 147 in the dispensaries, and 129 at home. The senior tuberculosis officer, Mr. C. J. Campbell Faill, gives a summary of his results with tuberculin in something over 100 cases, and claims that material benefit was realised in over 40 per cent. Finally, there are several points of interest in regard to the care of infants and children. The registered midwives called in medical practitioners in 437 cases out of a total of 4854 attended by 77 midwives. It is noteworthy that out of 23 cases of puerperal fever notified during the year 3 were attended by medical men.

THE WAR.

THE MEDICAL EXAMINATION OF RECRUITS.

CONSIDERING the unprecedented numbers in which the young men of our country have been offering themselves lately as recruits for the regular and territorial armies, it is scarcely to be wondered at that some delays have occurred in dealing with them at various centres. The war came upon us suddenly, and the immediate setting up of sufficient recruiting stations to cope with a great wave of enthusiasm for military service has thrown a considerable strain upon the War Office and the bodies acting in concert with it, especially when it is remembered that the paramount duty for the first week or two of the war was to mobilise an expeditionary army and despatch it to the continent. The normal number of recruits drafted into the regular army in time of peace is probably not more than 35,000 in a year. During the past month, according to the Prime Minister's statement at the Guildhall, between 250,000 and 300,000 men have been accepted for service. These figures speak for themselves, and it would have been surprising if hitches and delays had not occurred at the outset. The machinery for recruiting cannot suddenly be expanded on a vast scale and put into smooth working order without some initial friction and confusion. At first the complaints in the public press were that the recruiting offices were inadequate in number to deal with the host of eligible applicants. This, however, was soon remedied. Then it was alleged—and the complaint is still being widely voiced—that large numbers of would-be recruits were being held up or turned away because the medical examining staff was quite insufficient. With this grievance we propose to deal shortly, since it is of direct interest to our readers, and representations of various kinds have been made to us upon the subject. Thus, for instance, we hear of civilian practitioners of good attainments who directly they heard of the need for more medical examiners offered their services to the War Office, but have so far not been called upon to relieve the overworked officers of the Royal Army Medical Corps by assistance in this direction. That such offers have been gratefully noted by the authorities we have every reason to believe; but we understand that only in the case of territorial battalions, which are, of course, quite independent of Lord Kitchener's army, have the services of civilian medical men been requisitioned for passing recruits—at least to any considerable extent. The reasons for this decision appear to be twofold. In the first place it is held to be desirable that the responsibility for certifying recruits as medically fit for service in the regular army should rest with regular officers in the Army Medical Service; and, secondly, the requirements as to physique, eyesight, and general suitability for active service are searching and of a very precise kind in the case of recruits for the regular army, and the Army Medical Department holds that this is work for experts alone—that is to say, for medical officers specially trained in the selection of the raw material for fighting. The Territorial Force is considered to be on a different footing, and the medical tests and standards are far less stringent. A consideration of these points will enable us to understand why many eligible young men have had to wait to the uttermost limit of patience before "passing the doctor,"

and why, on the other hand, certain public spirited practitioners whose circumstances have prevented them from applying for commissions in the Royal Army Medical Corps have not so far been allowed to help where their help seemed to be urgently needed. We are told that arrangements have now been made to facilitate enlistment throughout the country and to ensure that delays in the medical examination of recruits are reduced to a minimum. The army is still far short of the numbers needed for the successful conclusion of this great war, but system and foresight at headquarters will no doubt smooth away present difficulties. And if the drain upon the regular officers of the Army Medical Service, due to casualties at the front and other causes, should produce a real shortage of medical examiners at home we are assured that the offers of assistance from civilian practitioners will not be overlooked by those in authority.

RED CROSS WORK IN GERMAN LINES.

Mr. S. Osborn has been in charge of a Red Cross contingent in Belgium since the commencement of the war. The following notes by one of his assistants reached us on Sept. 9th from Brussels.

We have just returned to Brussels after spending a week at Gembloux treating German casualties from the battlefields around Namur and Aizeau. During that period about 350 Germans passed through our hands, and altogether we must have seen 1500 or more cases. At first some of the Germans refused to be treated by us, and as we were not allowed to help the wounded prisoners we had time on our hands in which to observe the German medical corps on active service. It cannot be said that their methods impressed us favourably. Among the cases that came under us for assistance wounds of the extremities were at least three times more common than in other parts, the upper extremity suffering equally with the lower. In the gunshot wounds there was the usual small wound of entrance with the larger one of exit, which was suppurating in 60 per cent. of our cases, showing that the German first field dressing is not a very efficient preventive against sepsis. The wounds of entrance healed rapidly, there was no sinus left, the typical wound at the end of four days being represented by a suppurating patch of tissue about an inch in diameter at the place of exit. We saw few fractures, but such as occurred were severe and compound. Several of these had been treated at dressing stations with plaster-of-Paris splints—a dangerous practice when the men were unable to be kept under observation for some time. A Hanoverian officer with his left arm in a plaster-of-Paris splint came to us and complained of pain in the hand. On examination Mr. Osborn found no evidence of circulation, and at the end of 45 minutes' work with a razor, as we had no clippers, the splint was removed. It had been intended that this man should have gone on to Liège, an eight hours' journey, without further medical attention. The German transport for wounded was very poor indeed; except for four light ambulance wagons, about 2000 wounded were evacuated through Gembloux on improvised farm carts, each cart containing a little straw and carrying about 12 men. The scheme was to collect the cases from the battles round Namur and Aizeau, to use Gembloux as the railhead, and to hurry all the cases without discrimination back through Liège to Germany. We saw one man, who was shot through the pubes, taken from bed, dressed in full kit with his rifle slung, and dragged along on foot to the station. Here the only accommodation provided for the wounded consisted of cattle trucks in which wooden benches had been placed, no space being left on the floor for the badly wounded. Of the great discomforts and the foul atmosphere of such a journey we can speak for ourselves, since we were compelled to use this means to return to Brussels. The feeding of the patients at our hospital was in charge of a German orderly, and here, again, there was a total lack of discrimination. Black bread and German sausage or fat bacon were provided every day, and if a man were too ill to eat such fare he went without. Fresh milk was impossible to obtain, but our nurses managed to secure condensed milk and weak coffee for a few of the gravest cases. We saw several operations in the big base hospital. It was a curious sight; a most extraordinary mixture of asepsis and filthy work. For instance, the region round the wound was shaved, yet half the hairs fell into the wound; the surgeon washed his hands most carefully, and then touched the cigar which he smoked all the time; the instruments were carefully sterilised by boiling, and then placed on a towel which had been used for the instruments for the last 20 operations. Big collections of pus and blood on the table were ignored, the only means of removal appearing to be on the uniform of the next patient. Anæsthetics were seldom given, and it must be said that the fortitude of both French and German was remarkable. Nearly every case witnessed consisted of removal of bullets from a suppurating part. Treatment consisted in enlarging the wound, probing and extracting with long forceps, and then forcing a way through the tissues with the forceps to the most dependent part, where a second incision was made, when a gauze wick was inserted. The authorities would not allow Mr. Osborn to perform any operation, but in one case, a French soldier, who had a wound just below the skin in the left thigh, he extracted the bullet by means of a razor borrowed from a soldier standing by.

ANTITYPHOID INOCULATION.

An advertisement emanating from the *Animals' Guardian* has been brought to our attention by several correspondents. It seeks to convince the public that the benefit of antityphoid inoculation is a delusion. The letter which we publish this week from the Presidents of the Scottish Royal Colleges, in supplement to letters already published from Sir William Osler and Sir William Leishman, writing as guardians of the health of the army, should dispose of the contentions of the editor of the *Animals' Guardian*. Probably none of our readers want converting or convincing, but we would draw attention to the Italian experience in the matter which is recorded in our columns this week.

CASUALTIES TO OFFICERS OF THE ROYAL ARMY MEDICAL CORPS.

In the supplementary lists of casualties published since our last issue the following are members of the Royal Army Medical Corps:—Killed: Captain A. S. Williams. Wounded: Captain M. Leckie, Captain H. M. J. Perry, and Captain C. W. Holden. Missing: Major J. H. Brunskill, Major H. W. Long, Captain G. H. J. Brown, Captain W. Crymble, Captain P. Dwyer, Captain C. T. Edmunds, Captain J. H. Graham, Captain H. B. Kelly, Captain P. C. T. Davy, Captain E. S. B. Hamilton, Captain H. C. Hildreth, Captain A. D. O'Carroll, Captain G. H. Rees, Captain M. Sinclair, Captain W. C. Smales, and Captain A. C. Vidal. Lieutenant M. K. Nelson, Lieutenant T. H. Bell, Lieutenant P. P. Butler, Lieutenant E. Davies, and Lieutenant H. J. S. Shields.

TEETH AND RECRUITING.

The fact that a large number of men have been rejected as recruits on account of their teeth has called forth protests from several quarters, but the opinions expressed show that they are not inspired by exact knowledge. Some of the statements have been a reflection on those responsible for the medical examination of the recruit because they did their duty. The dental standard has, as a matter of fact, during the present recruiting been considerably relaxed, and only those the conditions of whose mouths made them liable to break down from actual malnutrition have been rejected. That even under these generous conditions a large number of men have had to be rejected is no surprise to those

specially conversant with dentistry. To disregard the condition of the teeth of recruits entirely would in our opinion be unsound practice, and would only mean in the near future the invaliding home of a number of men. The South African war taught this lesson. Laymen do not seem to realise that many of those rejected can easily be made efficient by dental treatment, and at the present moment the dental hospitals throughout the country and many private practitioners are busily engaged in voluntarily carrying out the work and adding thousands of efficient recruits to the army.

STERILISATION OF WATER-SUPPLIES FOR TROOPS ON ACTIVE SERVICE.

An interesting and valuable report from Professor G. Sims Woodhead, Lieutenant-Colonel R.A.M.C.(T.) Sanitary Service, includes a method of testing and sterilising water that should be known to those in charge of the water-carts supplying troops on active service.

EASTERN AND WESTERN MILITARY GENERAL HOSPITALS.

In our last two issues we published the names of the medical and surgical staffs which became available upon the mobilisation of the territorial general hospitals in London and in the north of England, together with some information as to the method of organisation. This week we give corresponding details in the case of the military general hospitals of the east and of the west, from which it will be seen that these hospitals also are excellently served in respect of both personnel and materiêl.

First Eastern General Hospital.—During time of peace the office of this hospital is at 39, Green-street, Cambridge. The officer in command is Colonel J. Griffiths, and Major F. E. A. Webb and Quartermaster and Hon. Lieutenant R. H. Porter are attached. The day following receipt of orders for mobilisation the unit assembled in the New Museums, Cambridge, where it has since been quartered. In the course of two more days the whole of the extra personnel, 69 men, required to bring the unit from peace to war strength were recruited and are now in training. The nurses were ordered up on August 9th, and the full complement came into residence at Downing College, where they now are. The members of the *à la suite* staff, medical and surgical, were all notified and the necessary proportion have already taken up duty. The Leys school, where dormitories and beds were available to meet emergencies, was occupied on August 18th, and have since been occupied with casualties from the troops located here and in East Anglia. On August 30th the patients were transferred to Nevile's Court, Trinity College, which has been prepared as a temporary open-air hospital. The cloisters in this court have been adapted, and in it there are 256 beds and a large operating room to meet all requirements. The additional 264 beds are accommodated in tents erected on the paddocks behind the College. The Leys school was evacuated in order not to interfere with the educational work of the institution, and Trinity College is to be likewise evacuated, so as to avoid disturbing the usual work of the College. The provision for the wounded after the first week in October is being arranged for. Up to August 31st the patients here included only casualties among the troops, but on that date the first batch of 170 wounded from the front arrived. The authorities concerned have afforded the commanding officer every possible facility to carry out the work of preparation. On mobilisation the following physicians and surgeons form the staff:—Lieutenant-Colonels: Sir T. Clifford Allbutt, K.C.B., Mr. G. E. Wherry, Dr. J. B. Bradbury, and Dr. F. Deighton. Majors: Dr. L. Humphry, Mr. A. Cooke, Dr. E. L. Jones, Dr. F. W. Burton-Fanning, Mr. H. A. Ballance, Dr. J. A. Wright, Dr. P. S. Hichens, and Dr. R. A. Milligan. Captains: Dr. H. H. Brown, Mr. J. C. W. Graham, Dr. G. F. Rogers, Dr. G. S. Haynes, Dr. B. H. Nicholson, Dr. W. Malden, Mr. S. W. Curl, Dr. J. F. Gaskell, Mr. D. Mallam, and Mr. E. J. Y. Brash. In addition the work of the British Red Cross (Cambridgeshire), under the county director, the Rev. C. F. Townley, is well in hand and thoroughly organised as regards accessory hospital accommodation, transport of wounded, and collection and distribution of clothing. Other organisations are in being for help to the relatives who may journey here to visit the sick and for the collection and distribution of suitable literature.

Second Eastern General Hospital.—During time of peace the office of this hospital is at 117, Gloucester-road, Brighton. The officer in command is Major J. A. Rooth, and Lieutenant H. J. Walker and Quartermaster and Hon. Major T. F. H. Briscoe are attached. The hospital has been established in the new buildings of the Brighton Grammar School, situated in the Dyke-road, in a well-elevated, open, healthy position. The school consists of two main blocks, the school building and the boarding house, and is eminently suitable for a military hospital. Here there are about 300 beds, the remaining 220, to make up the establishment number, being placed at Stanford-road council school quite close by. In addition a large private house opposite the hospital is used as a barracks by the men of the unit, and the nurses are housed in the convent at The Upper Drive. The hospital contains a well-equipped operating theatre, where already many operations have been performed. There are an X ray room, with all the necessary apparatus for skiagraphy, a consulting-room for the treatment of minor casualties, a dispensary, where all the prescriptions are made up, and a mortuary; also rooms for the administrative staff, such as the administrator's office, the registrar's office, rooms for the matron, for the theatre sister, and for the nursing committee, who are responsible for the collection and distribution of the many gifts of fruit, tobacco, linen, &c., which are pouring in on the hospital. The school was occupied on August 7th, and was ready for the reception of patients in less than a week. About 50 cases of illness and accident were admitted in August. On August 31st a telegram arrived from the War Office with the information that 300 patients would arrive the next morning. All the necessary arrangements were rapidly completed at the hospital, a fleet of motor-cars and ambulances was collected, and on the morning of Sept. 1st, within two hours of the arrival of the first train at Brighton Central Station, 300 men were transported from train to ward without a hitch. Those who were well enough were sent to the bath-rooms, whilst the more serious cases were put to bed and got under treatment as soon as possible by the medical officers. On mobilisation the following physicians and surgeons form the staff. Lieutenant-Colonels: Dr. E. Hobhouse, Mr. R. F. Jowers, Dr. E. F. Maynard, and Dr. F. J. Paley. Majors: Dr. W. Broadbent, Mr. W. W. Griffin, Dr. D. G. Hall, Mr. A. H. Buck, Dr. C. F. Bailey, Dr. T. H. Ionides, Dr. F. G. Bushnell, and Mr. W. A. Bowring. Captains: Dr. R. Whittington, Dr. W. H. Brailey, Mr. H. H. Taylor, Dr. H. Gervis, Mr. G. Morgan, Dr. C. H. Bonham, Dr. L. A. Parry, Dr. A. M. Colcutt, Dr. R. Sanderson, Dr. J. Shardlow, Dr. A. J. Hutchison, Mr. C. N. Chadborn, Dr. A. G. Bate, Mr. M. N. J. Rigby, Dr. A. M. Daldy, Mr. R. P. Nash, Mr. W. R. Wood, Mr. H. N. Fletcher, and Dr. F. A. S. Hutchinson. Of these Colonels Paley and Maynard, Majors Buck, Bowring, Hall, and Bailey, and Captains Taylor, Parry, Bate, Whittington, Wood, Daldy, Hutchinson, Gervis, Chadborn, Shardlow, Brailey, and Colcutt have been called up, leaving 13 other medical officers to be called on when necessary. The nursing staff is made up of a principal matron, a matron, with about 30 sisters and 90 nurses. These are all fully trained and carefully selected, and every credit must be given to them for the assistance which they have given in the perfecting of the hospital arrangements. The administrator, Major Rooth, with the assistance of his staff of officers, non-commissioned officers, and men (every one of whom has thrown himself heart and soul into the work), must be heartily congratulated on the rapidity and thoroughness with which they have converted an empty building into an up-to-date and well-equipped military hospital, with 350 patients under treatment, both medical, surgical, and operative, all in less than a month from the declaration of war. Thanks to the excellent treatment the men are receiving, a good number, it is believed, will be fit again to take their places in the ranks. The men are receiving visitors constantly, and those who are not so incapacitated as to have to keep to bed can at will call upon a motor-car and even a

carriage and pair of horses with footman complete, quite a number of such luxuries being placed at their disposal. The local ambulance brigade did splendid work when the men first arrived, and at a given signal no fewer than 50 private motor-cars were available.

First Western General Hospital.—During time of peace the office of this hospital is at 73, Shaw-street, Liverpool. The hospital is now established at the Fazakerley Hospital. The telegram ordering mobilisation was received at 9 P.M. on August 4th, and all officers, non-commissioned officers, and men were at once notified, and the principal matron was ordered to warn her staff. As all the officers whose services are available only on mobilisation reside in Liverpool, and all nurses had been warned and could be available in a few hours, the hospital was practically mobilised on August 5th. On August 7th permission was received to occupy Fazakerley Hospital, and this could have been done at once, the third day of mobilisation, but was postponed until next day to suit the hospital arrangements. On August 8th the unit arrived at Fazakerley Hospital and occupied quarters in the annexe, where 120 beds were ready, and all preparations made for increasing at the rate of 120 a day if necessary. The surgical and medical apparatus and X ray equipment were accepted on loan. The services of a bacteriologist and specialist for venereal diseases were arranged for. On August 9th what was almost a second mobilisation took place. The men's quarters were removed from the annexe to the new hospital to hasten entire occupation of the new hospital and administrative block. The hospital was inspected on August 11th by the G.O.C. in C. and the D.D.M.S., who expressed their entire satisfaction. The first two patients were admitted at 9.30 P.M. on August 11th. Since that date patients have been regularly admitted and dismissed, and all arrangements are working smoothly. Various special conditions have been attended by specialists. The Liverpool corporation, the West Lancashire County Association, and the staff are all to be congratulated on the speed and efficiency with which mobilisation took place. The officer in command of the hospital is Lieutenant-Colonel A. B. Gemmell, and Major C. Rundle and Quartermaster and Hon. Lieutenant A. Naldrett are attached. On mobilisation the following physicians and surgeons form the staff: Lieutenant-Colonels: Mr. R. Parker, Sir James Barr, Mr. W. Alexander, and Sir Ronald Ross, K.C.B. Majors: Mr. F. T. Paul, Dr. T. Bushby, Mr. R. Jones, Mr. R. W. Murray, Dr. T. R. Bradshaw, Mr. E. A. Browne, Mr. J. Utting, and Dr. P. Davidson. Captains: Mr. J. R. Logan, Dr. J. M. Hunt, Mr. F. C. Larkin, Mr. W. Permewan, Mr. D. Douglas-Crawford, Mr. J. L. Roberts, Mr. C. T. Holland, Dr. R. J. Buchanan, Mr. R. A. Bickersteth, Dr. W. B. Warrington, Dr. H. Armstrong, Dr. J. Hay, Dr. T. R. W. Armour, Mr. R. E. Kelly, Dr. V. C. de Boinville, Dr. L. A. Morgan, Dr. K. W. Monsarrat, Mr. A. J. Evans, and Dr. Pantland Hick. Since the opening of the hospital 288 persons have been admitted, 66 have been discharged, and 222 remain.

Second Western General Hospital.—During time of peace the office of this hospital is at Manchester. The officer in command is Lieutenant-Colonel J. W. Smith, and Major F. H. Westmacott and Quartermaster and Hon. Lieutenant F. B. Wild are attached. The hospital has been established in the municipal secondary school, Whitworth-street (420 beds), and the Day Training College adjacent (120 beds). As buildings not constructed for a hospital and having to be adapted as such none better could be hoped for. The school has a public garden on one side and a playing ground on the other, and is situated within the ring of the four great railway stations, the furthest of them three-quarters of a mile distant. In a lofty, well-lighted basement are the staff kitchens and dining-rooms, and large linen, pack, stewards', and general stores, staff ablution rooms, and laundry. On the ground floor (after providing administrative rooms and dispensary) and the two floors above it are the wards, on each side of a broad central corridor, with large windows, good cross ventilation, and heated by radiators. An elevator large enough to carry a bed has been fitted, as well as X ray room and operating theatres. The Royal Army Medical Corps orderly staff are quartered on the top floor. The quarters for the nursing staff are in Hulme Hall, Victoria Park (a University hall of residence). In addition to the hospital in these buildings the Retreat of the Convent of the Cenacle, Alexandra Park, offered for hospital use and accommodating 150 beds, has been accepted by the General Officer Commanding in Chief, Western Command. On mobilisation the following physicians and surgeons form the staff: Lieutenant-Colonels: Mr. F. A. Southam, Mr. W. Thorburn, and Dr. E. S. Reynolds. Majors: Mr. A. H. Griffith, Sir W. Milligan, Dr. R. B. Wild, Mr. J. J. Cox, Mr. A. H. Burgess, Mr. J. H. Ray, and Dr. G. R. Murray. Captains: Mr. A. Wilson, Dr. R. T. Williamson, Mr. E. D. Telford, Dr. E. N. Cunliffe, Mr. P. R. Wrigley, Dr. C. H. Melland, Dr. W. J. S. Bythell, Dr. F. C. Moore, Dr. R. W. Marsden, Dr. G. Wright, Dr. G. E. Loveday, Dr. J. Wharton, Dr. A. Sellers, Mr. W. A. Hooton, Dr. A. Donald, Mr. H. H. Rayner, Dr. W. H. P. Hey, Mr. J. P. Buckley, Dr. F. E. Tylecote, Dr. D. E. Cope, and Mr. S. R. Wilson. From this it will be seen that the *à la suite* medical staff includes nearly all the honorary staff of the Manchester Royal Infirmary (except Mr. C. Roberts and Dr. A. Ramsbottom, who have gone with the 18th Field Ambulance, Expeditionary Force), and seven are professors in the Victoria University. The professors of clinical surgery and medicine, Mr. Thorburn and Dr. Reynolds, are officers in charge of the surgical and medical divisions of the hospital. Eye work is in charge of Mr. Griffith and Dr. Wharton; ear and throat work, Sir W. Milligan; skin, Dr. Wild, who has for the time, owing to the great pressure in recruiting work, been appointed district medical officer for recruiting, and all the members of the *à la suite* staff not called on in the first roster have been summoned to assist in this work. In addition to their surgical work Mr. A. Wilson is chief anæsthetist, Dr. Bythell is in charge of radiographic work, and Mr. Hooton of dental work. Bacteriological and pathological work will by the kindness of Professor S. Delépine be done at the Public Health Laboratory by Dr. Sellers and Dr. Loveday. The latter has already done many antityphoid inoculations. The staff of nursing sisters has been most carefully enrolled and kept since 1908 by Miss M. E. Sparshott, organising matron, now principal matron, with Miss E. E. F. Fletcher as matron and Miss Woodhouse as assistant matron. The secretary and registrar, Mr. F. H. Westmacott, has had much training in the work of a military hospital since his appointment in 1908, and the officer commanding, Lieutenant-Colonel J. W. Smith, was in charge of the surgical division of the Ninth General Hospital, South African Field Force at Bloemfontein in 1900.

Third Western General Hospital.—During time of peace the office of this hospital is at 15, Newport-road, Cardiff. The officer in command is Lieutenant-Colonel D. Hepburn, V.D., and Major E. J. Maclean and Quartermaster and Hon. Lieutenant G. D. Purcell are attached. On mobilisation the following physicians and surgeons form the staff:—Lieutenant-Colonels: Dr. H. R. Vachell, Dr. T. Wallace, Dr. E. Le C. Lancaster, and Mr. O. E. B. Marsh. Majors: Dr. P. R. Griffiths, Dr. W. M. Stevens, Dr. C. Lewis, Dr. D. R. Paterson, Dr. B. W. Broad, Dr. A. Howell, and Mr. W. F. Brook. Captains: Mr. C. A. Griffiths, Mr. R. C. Elsworth, Dr. H. A. Schölberg, Mr. W. J. Greer, Mr. T. M. Thomas, Mr. W. Nicholson, Mr. E. Reid, and Mr. F. G. Thomas.

THE ROYAL HERBERT HOSPITAL.—At the Royal Herbert Hospital, Woolwich, some 300 patients have recently been admitted from the seat of war. A large proportion of the patients are surgical cases, and have received wounds in action. The injuries are, speaking generally, not of a very severe character, and most of them are wounds of the lower extremity. All the patients are progressing and are already benefiting by the healing influences of that atmosphere of quietness and order that distinguishes a well-managed hospital, where everyone is busy but where there is no noise or confusion. The last party of invalids, numbering nearly 200, arrived at Well Hall Station on August 30th, at 5 A.M. The Eltham auxiliary of the Red Cross Society were in readiness and provided everyone with hot beef-tea. The whole convoy were immediately transferred to hospital and every patient was comfortably settled in bed, with a complete change of clothing, within an hour of arrival at the railway station. We understand that the patients in the Royal Herbert Hospital will by degrees be evacuated into smaller hospitals in the district and into civil hospitals, in rotation, the patients eventually passing to convalescent

homes in various parts of the country. The institution will thus be periodically cleared for use as a place of reception for serious cases from the seat of war. In this connexion it is satisfactory to note that already a large proportion of the cases are convalescent, and that none are giving cause for anxiety.

SECOND LONDON (CITY OF LONDON) GENERAL HOSPITAL.—In our issue of August 29th we gave a list of the *à la suite* medical and surgical staff of this military general hospital which has been established at St. Mark's College, Chelsea, and the adjoining secondary school of the London County Council. The hospital, with its 520 beds, is now complete and ready for the reception of sick and wounded combatants. Lieutenant-Colonel Eustace M. Callender, the commanding officer, has been in charge of the work of organisation and equipment, and the transformation of buildings which were never designed for such a purpose into a large military general hospital has proved an arduous but at the same time a highly interesting task. By the exercise of system, energy, and foresight, and with much willing help from all subordinates, the new hospital was practically ready for use within a month of the mobilisation of the Territorial Force. The provision of sufficient sanitary accommodation was the main structural problem and this has been solved by constructing sanitary annexes. Other temporary alterations have also been carried out, and an electric lift to convey a stretcher to every floor has been installed both in the medical and in the surgical wing. In the surgical block, which occupies the secondary school buildings, a capital operating theatre has been provided. The wards vary in size from the large airy hall which was formerly the gymnasium to small chambers suitable for the reception of one or two officers. The grounds of the college adjoin Chelsea station, and the intervening wall has been demolished at one point to allow patients to be brought direct from the platform to the hospital down an improvised slope.

DUCHESS OF WESTMINSTER'S WAR HOSPITAL.—The Duchess of Westminster has helped to equip and organise a hospital of 200 beds for the treatment of the wounded on the continent, as we announced some weeks ago. The hospital has received the consent and approval of the War Office and of the British Red Cross Society, and is to be run on military lines. Sir C. Inigo Thomas, G.C.B., late Permanent Secretary of the Admiralty, is acting as chairman, and Mr. Ian Hamilton Benn, M.P., as honorary treasurer. Major H. E. M. Douglas, V.C., D.S.O., is appointed Commandant, and the following gentlemen comprise the medical and surgical staff: Mr. C. Gordon Watson, Dr. W. P. S. Branson, Dr. Harold Pritchard, Mr. Sydney Scott, Mr. J. S. Burn, and Mr. Dudley Stone. The services have also been obtained of a fully trained nursing staff and a complete unit of the St. John's Ambulance orderlies. The organisation of the hospital is now complete, and it awaits orders from the War Office. Subscriptions and donations are urgently needed for the maintenance of the hospital, and will be thankfully received by the treasurer. Cheques should be made payable to the Duchess of Westminster's War Hospital Fund, and should be sent to 82, Harley-street, London, W., and crossed "Drummond and Co."

THE ROYAL SANITARY INSTITUTE AND FIELD AMBULANCE DETACHMENTS.—In response to an appeal in the *Journal of the Royal Sanitary Institute* for 750 men to form field ambulance detachments the list was filled up in less than a week. Among those who enlisted were some of the staff of the institute and a number of members and associates whose attainments we understand made them specially acceptable to the authorities. When the detachments were formed the institute was asked by the Territorial headquarters to arrange at very short notice a series of lectures for the men, and in two days a course of training was arranged at the institute, including first-aid, personal hygiene, camp sanitation and water-supply, and demonstrations in bandaging were given to the whole of the 750 men. The members of council and others who have helped in giving these lectures are: Professor H. R. Kenwood, Dr. A. Beresford Kingsford, Captain A. J. Martin (2nd London Sanitary Company), Mr. E. H. T. Nash, Dr. M. S. Pembrey, Dr. Charles Porter, and Mr. W. C. Tyndale. The bandaging demonstrations have been undertaken by Dr. Louis C. Parkes. A number of members of the institute have also sent in their names for the 2nd London Sanitary Company or offered assistance in the sanitary service of the country.

DUBLIN AND THE WAR.—Our own correspondent writes:—"Disappointment has been felt in medical circles in Dublin at the failure of the British Red Cross organisation to make use of the unit which had been formed at its suggestion in Dublin. Some weeks ago a Dublin surgeon was invited by the authorities at Devonshire House to get together a party of ten surgeons, ten dressers, and 20 nurses to proceed abroad as a Red Cross unit. The unit was reported to be complete within a couple of days. It was strongly manned, nearly all the surgeons being members of the staffs of one or other of the Dublin hospitals. After a fortnight's waiting they were advised last week that they might disband, as the War Office was not likely to require any more Red Cross units for a considerable time. The reason for such a decision by the War Office is not clear. It is understood that a unit manned in London was countermanded by the War Office at the same time. The members of both units must have been put to considerable inconvenience and some expense, which no doubt they will cheerfully bear. It is to be hoped that the official medical arrangements are so perfect that no outside aid is required."

Our correspondent also writes: "The various Dublin hospitals have been requested by the War Office to state what accommodation they can provide for wounded soldiers. All of them are setting aside a certain number of beds for the purpose, most of them a proportion of about 25 per cent. of their total accommodation."

THE DEPENDENCE OF RUSSIA ON IMPORTED MEDICINES: UNPATRIOTIC DRUGGISTS.—Prince Michail Obolensky, writing in the *Novoie Vremya* on the subject of medicines for the Russian army, says that prices have greatly increased, and he urges the interference of the Government. He adds that there are scarcely any medicines of Russian production, so that Russia is bound to turn to allies or neutral countries for her supplies. Another note in the same paper says that all the Russian houses that deal in medicines have raised their prices by 25 per cent. The Red Cross Society particularly protests against this advance, and has resolved to take measures to protect itself against the exactions of these firms.

THE HEALTH OF THE SWISS ARMY.—Our own correspondent in Zürich writes, under date Sept. 2nd: The sudden command of the Federal Government called the complete Swiss army to arms in the first days of August. The rapidity of the mobilisation was astonishing, as some 300,000 soldiers were under arms within two days and distributed all over the country and on all the frontiers in five or six days. Now the Landsturm, comprising men over 45, is slowly being dismissed. Owing to the clemency of the weather and the good sanitary arrangements only 44 deaths have been reported among the troops during August. Five of these were due to sunstroke, five to delirium tremens, six to suicide following mental derangement, and 13 to accidents. Two succumbed to typhoid fever, and the rest of the deaths followed various illnesses. The whole of the army was vaccinated or revaccinated. As regards infective diseases, seven cases of scarlet fever and 11 of typhoid fever have been announced. The typhoid fever cases were placed in hospital and measures taken to prevent any epidemic spread of the disease. Anti-typhoid inoculation is general.

NAVAL MEDICAL APPOINTMENTS.—"M.R.C.S." calls our attention to the dearth of news in this respect in our Service columns. There has been a very comprehensible scarcity of news from the Admiralty with regard to appointments in the Royal Navy, especially in the medical service. Now that mobilisation is complete few additional appointments are to be expected at present. We have published regularly all appointments which have been gazetted.

OLD PUBLIC SCHOOLS AND UNIVERSITY BATTALIONS.—The committee of the Old Public Schools and University Men's Force still urge all old public school and university men who are eligible for the force to come forward at once and enlist. Five battalions are being formed, and they will not be split up into smaller sections.

The London headquarters are at 66, Victoria-street, Westminster, and there are provincial recruiting offices at some 50 large centres.

Queen Charlotte's Hospital has undertaken to receive for their confinements any women amongst the Belgian refugees.

COLONIAL LOYALTY.—Mr. Norton Griffiths, M.P., and Mr. Arthur du Cros, M.P., have been authorised by Lord Kitchener to enrol all those colonials and overseas men resident in this country and desiring to serve together in a special infantry battalion or battalions. Applicants should apply to the Infantry Recruiting Office, White City, Shepherd's Bush (Uxbridge-road entrance), where arrangements have been made for medical examination and enrolment. Pay and rations will commence immediately. All those ex-colonials who could not be accepted for the 2nd King Edward's Horse are specially invited to apply.

FIELD GLASSES FOR THE ARMY.—Lord Roberts has appealed for field glasses for the use of officers at the front, with the result that a stream of callers at the National Service League offices, 72, Victoria-street, S.W., have promptly responded. In a few hours 500 glasses were received.

THE Ambulance Committee of the Metropolitan Asylums Board has decided to take steps for building ten motor ambulances on account of the calls that have been made on the ambulance service of the Board.

NATIONAL MEDICAL UNION.—At a meeting of the council of the Union on Sept. 5th the following resolution was passed:—

That the council of the National Medical Union is prepared to submit a list of its members who are willing to place their services in various capacities in their districts at the disposal of the War Office.

THE LATE LIEUTENANT-COLONEL B. H. MUMBY, R.A.M.C. (T.F.).—In reference to the successful organisation on a war footing of the Fifth Southern General Hospital at Portsmouth, noted in THE LANCET of August 22nd, p. 531, it should be mentioned that for the last year or two Lieutenant-Colonel Mumby had worked hard in planning the arrangements recently so successfully carried into effect. He died at the age of 58 on April 29th when returning in a motor-car from Southampton. He had been in ill-health a considerable time previously. Up to the day of his death he fulfilled many onerous duties of a public character. He became medical officer of health of Portsmouth in 1884, and held the post for some ten years. In 1896 he was appointed medical superintendent of Portsmouth Borough Asylum. The son of Colonel Mumby, who at one time commanded the 3rd V.B. Hampshire Regiment, his services were early engaged in that battalion, to which he became surgeon, ultimately attaining the rank of Lieutenant-Colonel, R.A.M.C. (T.F.), and the command of the Fifth Southern General Hospital, in regard to which his excellent work obtained much commendation. He left a widow and several children.

THE NATIONAL RELIEF FUND.

SUBSCRIBE to the Prince of Wales's National Relief Fund.

To H.R.H. THE PRINCE OF WALES,
BUCKINGHAM PALACE, LONDON.

I beg to enclose £ s. d. as a donation to the National Relief Fund.

*Name*_____

*Address*_____

_____

The envelope containing this coupon need not be stamped.

Medical News.

SOCIETY OF APOTHECARIES OF LONDON.—At examinations held in August the following candidates passed in the subjects indicated:—

Surgery.—D. Aucutt (Sections I. and II.), King's College Hospital; H. S. Baker (Sections I. and II.), St. Bartholomew's Hospital; A. G. Bodman (Sections I. and II.), Bristol; L. B. Clarke (Section II.), Cambridge and St. Mary's Hospital; W. E. K. Coles (Sections I. and II.), University College Hospital; L. S. Daly (Sections I. and II.), Manchester; J. A. W. Ebden (Sections I. and II.), Westminster Hospital; C. de W. Gibb (Sections I. and II.), Guy's Hospital; R. M. Handfield-Jones (Sections I. and II.), St. Mary's Hospital; G. W. Maw (Sections I. and II.), University College Hospital; A. N. Minns (Sections I. and II.), Guy's Hospital; T. S. Nelson (Sections I. and II.), Oxford and St. George's Hospital; G. D. Newton (Sections I. and II.), Durham; H. T. Roberts (Sections I. and II.), St. Mary's Hospital; M. P. dos Santos (Sections I. and II.), Louvain; R. H. Simpson (Sections I. and II.), St. Bartholomew's Hospital; C. R. Smith (Sections I. and II.), Guy's Hospital; L. H. Terry (Sections I. and II.), St. Bartholomew's Hospital; and J. A. Watson (Sections I. and II.), London Hospital.

Medicine.—D. Aucutt (Section I.), King's College Hospital; H. S. Baker (Sections I. and II.), St. Bartholomew's Hospital; A. G. Bodman (Sections I. and II.), Bristol; P. H. Burton (Section I.), London Hospital; W. E. K. Coles (Sections I. and II.), University College Hospital; L. S. Daly (Sections I. and II.), Manchester; C. D. Day (Sections I. and II.), St. Bartholomew's Hospital; J. A. W. Ebden (Sections I. and II.), Westminster Hospital; C. de W. Gibb (Sections I. and II.), Guy's Hospital; R. M. Handfield-Jones (Sections I. and II.), St. Mary's Hospital; G. W. Hassall (Sections I. and II.), Birmingham; H. R. Ibbotson (Sections I. and II.), Leeds; G. L. Lawlor (Section I.), St. Mary's Hospital; A. N. Minns (Sections I. and II.), Guy's Hospital; T. S. Nelson (Sections I. and II.), Oxford and St. George's Hospital; G. D. Newton (Sections I. and II.), Durham; L. E. Pimm (Sections I. and II.), King's College Hospital; R. H. Simpson (Sections I. and II.), St. Bartholomew's Hospital; C. R. Smith (Sections I. and II.), Guy's Hospital; and L. H. Terry (Sections I. and II.), St. Bartholomew's Hospital.

Forensic Medicine.—D. Aucutt, King's College Hospital; H. S. Baker, St. Bartholomew's Hospital; A. G. Bodman, Bristol; P. H. Burton, London Hospital; W. E. K. Coles, University College Hospital; L. S. Daly, Manchester; J. A. W. Ebden, Westminster Hospital; C. de W. Gibb, Guy's Hospital; R. M. Handfield-Jones, St. Mary's Hospital; A. N. Minns, Guy's Hospital; T. S. Nelson, Oxford and St. George's Hospital; G. D. Newton, Durham; L. E. Pimm, King's College Hospital; R. H. Simpson, St. Bartholomew's Hospital; C. R. Smith, Guy's Hospital; L. H. Terry, St. Bartholomew's Hospital; and E. M. Townsend, Middlesex Hospital.

Midwifery.—D. Aucutt, King's College Hospital; H. S. Baker, St. Bartholomew's Hospital; A. G. Bodman, Bristol; P. H. Burton, London Hospital; W. E. K. Coles, University College Hospital; V. H. M. A. Dangerfield, Paris; J. A. W. Ebden, Westminster Hospital; C. de W. Gibb, Guy's Hospital; A. E. Gravelle, King's College Hospital; R. M. Handfield-Jones, St. Mary's Hospital; A. N. Minns, Guy's Hospital; T. S. Nelson, Oxford and St. George's Hospital; H. B. Padwick, London Hospital; L. E. Pimm, King's College Hospital; R. H. Simpson, St. Bartholomew's Hospital; F. Simpson, London Hospital; C. R. Smith, Guy's Hospital; and L. H. Terry, St. Bartholomew's Hospital.

The Diploma of the Society was granted to the following candidates, entitling them to practise Medicine, Surgery, and Midwifery:—L. B. Clarke, G. W. Maw, H. T. Roberts, M. P. dos Santos, J. A. Watson, H. S. Baker, A. G. Bodman, W. E. K. Coles, V. H. M. A. Dangerfield, L. S. Daly, C. D. Day, J. A. W. Ebden, C. de W. Gibb, R. M. Handfield-Jones, A. N. Minns, T. S. Nelson, R. H. Simpson, C. R. Smith, and L. H. Terry.

ST. THOMAS'S HOSPITAL: OLD STUDENTS' DINNER.—In consequence of the war and the absence of so many St. Thomas's men on naval and military duty it has been decided to postpone the old students' dinner which was announced for Oct. 1st.

SOUTH-WEST LONDON MEDICAL SOCIETY.—At a council meeting of this society held on Sept. 3rd it was decided unanimously that the twenty-first annual dinner, which was announced in these columns, should be postponed indefinitely on account of the war.

Appointments.

Successful applicants for vacancies, Secretaries of Public Institutions and others possessing information suitable for this column, are invited to forward to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, such information for gratuitous publication.*

PHILP, C. HASTINGS, M.B., B.C. Cantab., has been appointed Honorary Anæsthetist to the Herefordshire General Hospital.

THOMPSON, ROBERT BUSHER, M.B., Ch.B. Vict., has been appointed Public Vaccinator for Brixham (Devon).

WEBB, CHARLES C., B.A., M.B., B.C. Cantab., D.P.H. Vict., has been appointed Medical Officer for the Yatton District by the Long Ashton (Somerset) Board of Guardians.

WHINCUP, FRANK, M.R.C.S., L.R.C.P., F.R.C.S. Edin., has been appointed Physician to the Royal Salop Infirmary.
WRIGHT, BERTRAM R., M.B., Ch.B. Edin., has been appointed House Surgeon at the Royal Albert Hospital, Devonport.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

HANBURY, HORTON INFIRMARY.—House Surgeon. Salary £120 per annum, with board and residence.

BARNSTAPLE, NORTH DEVON INFIRMARY.—House Surgeon. Salary £100 per annum, with board, residence, and washing.

BELGRAVE HOSPITAL FOR CHILDREN, Clapham-road, S.W.—House Surgeon and House Physician for six months. Salary at rate of £75 per annum, each with board, residence, and washing.

BIRMINGHAM CITY ASYLUM, Rubery-hill.—Junior Assistant Medical Officer. Salary £200 per annum, with apartments, board, laundry, &c.

BIRMINGHAM, CITY FEVER HOSPITAL, Little Bromwich.—Assistant Medical Officer. Salary £200 per annum, with board, residence, and laundry.

BIRMINGHAM GENERAL DISPENSARY.—Female Resident Medical Officer, unmarried. Salary £240 per annum, with apartments, fire, lights, and attendance.

BIRMINGHAM AND MIDLAND HOSPITAL FOR SKIN AND URINARY DISEASES.—Clinical Assistant for three months, afternoon attendance only. Salary at rate of 52 guineas per annum.

BIRMINGHAM UNION.—DUDLEY-ROAD INFIRMARY: First Assistant Medical Officer, Second Assistant Medical Officer, and Fourth Assistant Medical Officer. Salaries at rate of £225, £180, and £160 per annum respectively. ERDINGTON INFIRMARY AND COTTAGE HOMES: Assistant Medical Officer. Salary at rate of £180 per annum. SELLY OAK INFIRMARY: Assistant Medical Officer. Salary at rate of £160 per annum. Apartments, rations, laundry, and attendance in each case.

BIRMINGHAM, YARDLEY-ROAD SANATORIUM AND ANTI-TUBERCULOSIS CENTRE.—Third Assistant Medical Officer. Salary £200 per annum, with board and residence.

BODMIN, CORNWALL COUNTY ASYLUM.—Junior Assistant Medical Officer. Salary £225 per annum, with quarters, board, laundry, and attendance.

BRENTFORD UNION INFIRMARY, WARKWORTH HOUSE, AND SCHOOLS, Isleworth, W.—Second Assistant Medical Superintendent, unmarried. Salary £200 per annum, &c.

BRISTOL ROYAL HOSPITAL FOR SICK CHILDREN AND WOMEN.—Female House Physician. Salary £100 per annum, with board, rooms, attendance, and laundry.

BUXTON, DERBYSHIRE, DEVONSHIRE HOSPITAL.—Assistant House Physician for six months. Salary £100 per annum, with apartments, board, and laundry.

CANCER HOSPITAL, Fulham-road, S.W.—Two House Surgeons for six months. Salary £100 per annum each.

CANTERBURY, KENT COUNTY ASYLUM, Chartham.—Junior Assistant Third Medical Officer, unmarried. Salary £250 per annum, with apartments, lighting, heating, attendance, laundry, &c.

CARSHALTON, SURREY, QUEEN MARY'S HOSPITAL FOR CHILDREN.—Assistant Medical Officers. Salary at rate of £250 per annum, with board, lodging, and washing.

CHELSEA INFIRMARY, Cale-street, S.W.—First Assistant Medical Officer. Salary £200 per annum, with board, washing, apartments, &c.

CHELTENHAM GENERAL HOSPITAL.—House Physician and House Surgeon, unmarried. Salary £100 per annum each, with board, lodging, and washing.

CHESHIRE COUNTY COUNCIL.—Two District Tuberculosis Officers. Salaries £350 per annum.

DERBY, DERBYSHIRE EDUCATION COMMITTEE.—Temporary Assistant School Medical Officer. Salary £300 per annum.

DERBY, DERBYSHIRE HOSPITAL FOR SICK CHILDREN.—Female Resident Medical Officer. Salary £80 per annum.

EPPING RURAL DISTRICT COUNCIL.—Medical Officer of Health. Salary £100 per annum. ISOLATION HOSPITAL: Medical Superintendent. Salary £200 per annum. UNION: District Medical Officer and Public Vaccinator. Salary £125 per annum.

EXETER, ROYAL DEVON AND EXETER HOSPITAL.—Assistant House Surgeon for six months. Salary at rate of £200 per annum, with board, apartments, and washing.

GREAT NORTHERN CENTRAL HOSPITAL, Holloway-road, N.—House Physician and House Surgeon for six months. Salary at rate of £60 per annum, with board, lodging, and laundry.

GREAT YARMOUTH HOSPITAL.—House Surgeon, unmarried. Salary £140 per annum, with board, lodging, and washing.

GUILDFORD, ROYAL SURREY COUNTY HOSPITAL.—House Surgeon. Salary £100 per annum, with board, residence, and laundry.

HALIFAX ROYAL INFIRMARY.—Second and Third House Surgeons, both unmarried. Salaries £120 and £100 per annum respectively, with residence, board, and washing.

HAMPSTEAD GENERAL AND NORTH-WEST LONDON HOSPITAL.—Two Female Resident Casualty Officers for Out-patient Department, Bayham-street, Camden Town, N.W., for six months. Salary at rate of £50 per annum, with board, residence, and laundry.

HARRIS, PARISH OF, Outer Hebrides.—Two Medical Practitioners, one for North and one for South Harris. Salary £300 per annum, &c., tax free.

HORNSEY EDUCATION COMMITTEE.—Temporary Assistant School Medical Officer. Salary £175 per annum.

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Brompton.—House Physician for six months. Salary 30 guineas.

HUDDERSFIELD ROYAL INFIRMARY.—Junior Assistant House Surgeon. Salary £80 per annum, with board, residence, and washing.

HULL ROYAL INFIRMARY.—Senior House Surgeon, unmarried. Salary £150 per annum, with board and apartments. Also Assistant House Surgeon. Salary at rate of £100 per annum, with board and lodging.

HULL, VICTORIA CHILDREN'S HOSPITAL, Park-street.—Female Resident House Surgeon. Salary £60 per annum, with board and laundry.

ILFORD URBAN DISTRICT COUNCIL.—Medical Officer of Health, School Medical Officer, and Medical Superintendent of the Infectious Diseases Hospital. Salary £525 per annum.

KENT EDUCATION COMMITTEE.—Temporary School Medical Inspector. Salary at rate of £300 per annum.

LEEDS PUBLIC DISPENSARY.—Two Resident Medical Officers. Salaries £130 per annum, with board, residence, and laundry.

LEICESTER, NORTH EVINGTON POOR-LAW INFIRMARY.—Two Assistant Medical Officers. Salary £200 per annum each, with apartments, rations, laundry, and attendance.

LEICESTER ROYAL INFIRMARY.—Assistant House Surgeon for six months. Salary at rate of £100 per annum, with board, apartments, and washing.

LIVERPOOL ROYAL SOUTHERN HOSPITAL.—Two House Physicians and Three House Surgeons for six months. Salary at rate of £60 per annum, with board and residence.

MAIDSTONE, KENT COUNTY ASYLUM.—Second Assistant Medical Officer, unmarried. Salary £280 per annum, with board, quarters, attendance, washing, &c.

MANCHESTER, HULME DISPENSARY, Dale-street, Stretford-road.—House Surgeon. Salary £180 per annum, with apartments, attendance, coal, and gas.

MANCHESTER NORTHERN HOSPITAL FOR WOMEN AND CHILDREN, Parkplace, Cheetham Hill-road.—House Surgeon. Salary £120 per annum, with apartments and board.

MANCHESTER POOR-LAW INSTITUTION, Crumpsall.—Second Resident Assistant Medical Officer. Salary £135 per annum, with rations, apartments, fire, light, washing, and attendance.

MERSTHAM, SURREY COUNTY ASYLUM, Netherne.—Assistant Medical Officer, unmarried. Salary £230 per annum, with board, lodging, and laundry.

MIDDLESBROUGH, NORTH RIDING INFIRMARY.—Senior House Surgeon for six months. Salary at rate of £100 per annum, with board, apartments, and laundry.

MILE END OLD TOWN INFIRMARY.—Junior Assistant Medical Officer. Salary £140 per annum, with board, lodging, and washing.

MILLER GENERAL HOSPITAL FOR SOUTH-EAST LONDON, Greenwich-road, S.E.—Resident Medical Officer and Junior House Surgeon. Salaries £150 and £85 per annum respectively, each with board, residence, and laundry.

NATIONAL SANATORIUM, Benenden, Kent.—Assistant Medical Officer. Salary £120 per annum, with board, lodging, and laundry.

NOTTINGHAM CITY ASYLUM.—Junior Assistant Medical Officer, unmarried. Salary £200 per annum, with board, apartments, and laundry.

NOTTINGHAM GENERAL DISPENSARY.—Assistant Resident Surgeon, unmarried. Salary £180 per annum, with apartments (not board), attendance, light, and fuel.

NOTTINGHAM GENERAL HOSPITAL.—Senior House Physician. Salary £120 per annum, with board, residence, and laundry.

PETERBOROUGH INFIRMARY.—House Surgeon, unmarried. Salary at rate of £150 per annum, with residence, board, and laundry.

PLAISTOW FEVER HOSPITAL, London, E.—Female Second Assistant Medical Officer for temporary duty. Salary at rate of £100 per annum, with rooms and all found.

POPLAR HOSPITAL FOR ACCIDENTS, Poplar, E.—Senior Resident House Surgeon. Salary at rate of £150 per annum, with board and residence.

PRESTON ROYAL INFIRMARY.—Resident Medical and Surgical Officer. Also Assistant Resident Medical and Surgical Officer. Salaries £150 and £120 per annum respectively, with board, residence, and laundry.

QUEEN CHARLOTTE'S LYING-IN HOSPITAL, Marylebone-road, N.W.—Assistant Resident Medical Officer for four months. Salary at rate of £50 per annum, with board, residence, and washing.

ROCHESTER, ST. BARTHOLOMEW'S HOSPITAL.—Resident House Physician for six months. Salary at rate of £110 per annum, with board, residence, and laundry.

ROTHERHAM HOSPITAL.—Assistant House Surgeon. Salary £110 per annum, with board, lodging, and washing.

ROYAL DENTAL HOSPITAL, Leicester-square, W.C.—House Anæsthetist three afternoons a week.

ROYAL EAR HOSPITAL, Dean-street, Soho, W.—Honorary Radiographer.

ROYAL WATERLOO HOSPITAL FOR CHILDREN AND WOMEN, S.E.—Junior Resident Medical Officer. Salary at rate of £70 per annum, with board and washing.

ST. MARY'S HOSPITAL FOR WOMEN AND CHILDREN, Plaistow, E.—Assistant Resident Medical Officer. Salary at rate of £100 per annum, with board, residence, and laundry.

ST. PETER'S HOSPITAL FOR STONE, &c., Henrietta-street, Covent Garden, W.C.—Junior House Surgeon for six months. Salary at rate of £75 per annum, with board, lodging, and washing.

SALFORD ROYAL HOSPITAL.—Resident Surgical Officer. Salary at rate of £120 per annum. Also House Physician. Salary at rate of £110 per annum. Also House Surgeon, Junior House Surgeon, and Casualty House Surgeon. Salary each at rate of £100 per annum. All for six months, with board and residence.

SALISBURY (GENERAL) INFIRMARY.—House Surgeon. Salary £100 per annum, with apartments, board, and lodging. Also Assistant House Surgeon, unmarried. Salary £75 per annum.

SHEFFIELD, EAST-END BRANCH OF THE CHILDREN'S HOSPITAL.—House Surgeon. Salary £120 per annum, with board and residence.

SHEFFIELD UNIVERSITY, DEPARTMENT OF PATHOLOGY.—Junior Demonstrator of Pathology. Salary £200 per annum.

SHERBURN HOSPITAL, near Durham.—Medical Officer. Salary £300 per annum and house.

SHREWSBURY, ROYAL SALOP INFIRMARY.—House Physician, unmarried. Salary at rate of £110 per annum, with board and apartments.

SOUTH LONDON HOSPITAL FOR WOMEN, 88 and 90, Newington-causeway, S.E.—Two Female Clinical Assistants in Out-patient Department on Monday and Tuesday afternoons respectively.

SOUTH SHIELDS, INGHAM INFIRMARY AND SOUTH SHIELDS AND WESTOE DISPENSARY.—Junior House Surgeon. Salary £115 per annum, with residence, board, and washing.

TRURO, ROYAL CORNWALL INFIRMARY.—House Surgeon, unmarried. Salary £100 per annum, with rooms, board, and washing.

TUNBRIDGE WELLS GENERAL HOSPITAL.—House Physician, unmarried. Salary £100 per annum, with board residence, &c.

VICTORIA HOSPITAL, Blackpool.—House Surgeon. Salary £150 per annum, with residence, board, and laundry.

VICTORIA HOSPITAL FOR CHILDREN, Tite-street, Chelsea, S.W.—House Surgeon for six months. Salary £40, with board, lodging, and washing.

WALSALL AND DISTRICT HOSPITAL.—Senior House Surgeon. Salary £150 per annum, with board, residence, and laundry.

WARRINGTON INFIRMARY AND DISPENSARY.—Junior House Surgeon. Salary at rate of £120 per annum, with board, apartments, and laundry.

WARRINGTON, LANCASHIRE COUNTY ASYLUM, Winwick.—Assistant Medical Officer, unmarried. Salary £250 per annum, with board, apartments, attendance, and washing.

WEST BROMWICH AND DISTRICT HOSPITAL.—Assistant Resident House Surgeon and Anæsthetist, unmarried. Salary £100 per annum, with board, residence, and washing.

WEST HAM AND EASTERN GENERAL HOSPITAL, Stratford, E.—Senior House Physician. Salary £120 per annum. Also Junior House Physician and Junior House Surgeon. Salary £100 per annum Board, residence, and washing provided in each case.

WHITEHAVEN AND WEST CUMBERLAND INFIRMARY.—Resident House Surgeon. Salary £120 per annum, with board, washing, and attendance.

WOLVERHAMPTON AND STAFFORDSHIRE GENERAL HOSPITAL.—House Surgeon and Resident Medical Officer, both for six months. Salary at rate of £125 per annum, with board, rooms, and laundry.

WOMEN'S HOSPITAL FOR CHILDREN, 688, Harrow-road, W.—Dental Surgeon. Salary 25 guineas per annum.

THE Chief Inspector of Factories, Home Office, London, S.W., gives notice of vacancies for Certifying Surgeons under the Factory and Workshop Acts at Buncrana, in the county of Donegal; at Carrickfergus, in the county of Antrim; and at Leven, in the county of Fife.

Births, Marriages, and Deaths.

BIRTHS.

GAITSKELL.—On August 30th, at The Cottage, Lympstone, S. Devon, the wife of Charles E. Gaitskell, M.R.C.S., L.R.C.P. Lond., of a son.

HOLROYDE.—On Sept. 6th, at Barnsley, Yorks, the wife of Douglas Holroyde, M.A., M.B., B.C., of a son.

MORLAND-SMITH.—On Sept. 2nd, at The Hive, Exeter-road, Bournemouth, the wife of T. Morland-Smith, M.R.C.S., L.R.C.P. Lond., of a son.

MARRIAGES.

BROWNE—BILLINGTON.—On Sept. 1st, at the Parish Church, West Kirby, by the Rev P. A. Millar, uncle of the bride, F. Guy Fountain Browne, M.B., Ch.B. Liverp., younger son of the late Alfred Fountain Browne, Esq., and Mrs. Fountain Browne, of Oxton, to Andrina Katherine, eldest daughter of Mr. and Mrs. E. R. Billington, of West Kirby.

ROBERTSON—SEDDON.—On Sept. 1st, at Painswick Church (quietly on account of the war), by the Rev. W. H. Seddon, vicar, and father of the bride, William Robertson, M.B., Ch.B. Glasg., son of Andrew B. Robertson, of Kelvinside, Glasgow, to Dorothy, second daughter of the Rev. W. H. Seddon.

DEATHS.

BAIN.—On August 24th, at Straythorpe, York Place, Harrogate, Leslie Curtis, younger son of William Bain, M.D., F.R.C.P., aged 18 years.

BARNES.—On Sept. 6th, at Dorchester, Lieutenant-Colonel R. W. Barnes, R.A.M.C. (retired).

DENZILOE.—On Sept. 3rd, at Felixstowe, William Le Gros Denziloe, M.D., L.R.C.P. Edin., M.R.C.S. Eng., L.S.A., son of the late Dr. Matthew Denziloe, of Bridport, Dorset, aged 72 years.

GASKELL.—On Sept. 7th, at "The Uplands," Great Shelford, Walter Holbrook Gaskell, M.D., F.R.S., aged 66 years.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

During the continuance of the war the size of THE LANCET *will be curtailed. This has been necessitated primarily by the difficulty in ensuring an adequate supply of paper, but the contributions of most of our correspondents on the continent have failed, and will fail, to reach us. Many special features of* THE LANCET *have had to be sacrificed for the time, and while we ask the indulgence of our readers for this, we promise to restore them at the earliest possible opportunity.*

SLEEPING SICKNESS IN NYASALAND.

THE Diary of Mr. A. H. Barclay, the Acting Principal Medical Officer of Nyasaland, Part XXIII., carries this series of investigations into the incidence of sleeping sickness in the Protectorate from Dec. 31st, 1913, to May 30th, 1914. In that period 20 cases have been diagnosed, bringing the total number of cases discovered in the Protectorate up to 192. Two of the previously reported cases have died during this period. Of the 20 new cases now reported there have been 11 deaths recorded. Cases have now occurred over practically the whole fly area of the Protectorate. A particularly interesting case is No. 133, previously reported, in which the diagnosis was made on May 19th, 1913, and Dr. Conran now reports him as still alive and apparently well. He takes food well and appears well nourished, complains of no pain, and plays all day. No œdema or other physical signs. Temperature normal. No trypanosomes found at last three examinations, but trypanosomes were found at previous examinations in both smears and fresh blood, and the Royal Society's Commission used a citrated specimen of his blood for inoculation and obtained a strain of trypanosomes. On this case Mr. Barclay remarks that there can be no possible doubt of his infection with T. rhodesiense, and if his health remains good he will be the first recorded recovery from that infection in Nyasaland. The first case recorded in this series (1908) also recovered, but the species of trypanosome was not clearly established.

VIRULENT INSECTS.

To the Editor of THE LANCET.

SIR,—A month ago I was at La Smallah, Ault-sur-Mer, France, and I woke up on Friday morning, August 7th, to find my face covered with itching pimples. My wife presented a similar crop. On comparing notes with the other members of the household—all told we were ten—it was found that my sister-in-law and her little girl of 3 had each a few bites—bites they evidently were. They occupied a room directly over ours, which was on the ground floor front. The other members of the family were unaffected; two of these, a little boy and a maid, occupied a front room. On looking round for an explanation I was struck by the fact that a revolving light near the house illuminated most strongly our room and the room over it. An old manure heap in a corner of a vegetable garden was quite close to the house.

Amongst our acquaintances in the village we saw no signs of similar attacks. Our spots soon became more indurated, red, itching, and larger. Before lighting-up time that evening windows and shutters were firmly closed, and we went to bed with muslin shields round our heads. The unusual conditions and itching made it difficult to sleep. There soon began a bombardment of our shields by numerous buzzing insects. After an hour of this I turned the light on, but the enemy, quickly taking advantage of natural recesses and defiles, were not revealed by the searchlight. Having smoked under bed and bedclothes the greater part of an article humorously described in Ault as a cigar, cost 1½*d.*, I turned in again, feeling that now I had done for them, though I had also nearly done for myself. They allowed me 10 minutes to indulge this pleasing fancy *en route* to dreamland, but no sooner was the frontier in sight than the attack was renewed with increased vigour, a vigour such as precluded all possibility of reaching the promised land.

Towards morning an hour's sleep which tired nature exacted by way of rehabilitation was not regarded as an armistice by the unconscionable enemy, and the interval was a costly one for us, as the opposing forces negotiated the secret passages in the fortifications and inflicted serious punishment. There were 24 red monticuli, Vesuvius-like prominences visible on my forehead and cheeks alone; my hands and shoulders were adorned still more profusely. My wife's right eye was completely closed with œdematous lids, upper and lower, a Carpentier-like piece of execution.

The others in the house again showed comparative immunity. I got the manure heap removed and the site dug up; it was the only Aidus apparently capable of rearing such a villainous family. Closing up the room completely for 12 hours, fumigating it with burning paper and formalin, was an accessory process adopted. We subsequently slept with open windows, and were subjected to no more inconvenience. For the past six years we have spent the greater part of the summer in the same villa, and have never previously been so attacked.

Is the experience a common one? The few insects that we succeeded in capturing presented the mosquito characters, but whether of the culex or anopheles or other species I cannot determine.

I am, Sir, yours faithfully,
D. T. BARRY, M.D. R.U.I., F.R.C.S. Eng.,
Professor of Physiology, University College, Cork.

"PERKINS'S METALLIC TRACTORS."

THE "metallic tractors" used for the relief of pain and disease by Dr. Elisha Perkins, (1745–1799), an American physician, for a long time president of the Connecticut Medical Society, were hammered out of iron and brass, being flat on one side and half-round on the other, and came in pairs, "the white" and "the yellow." After the inventor's death the tractors were commercially exploited, the price in London in 1802 being five guineas. They gave rise to a satirical poem "Terrible Tractoration" and also to much discussion on the merits of the treatment. Dr. A. B. Judson of New York writes that in 1884 four of them were found in the house of his grandfather at Plymouth, Massachusetts, where they had lain undisturbed for many years. The accompanying photo-engraving shows very nearly their size. Many cures were alleged to have been wrought by drawing them over the affected part. Doubtless specimens are yet to be found in cupboards and bureau drawers of old houses in America and England. Letters patent to Dr. Perkins, signed by President Washington, are said to be in the possession of the inventor's descendants at Springfield, Massachusetts, U.S.A.

THE EXETER INSURANCE COMMITTEE.

AT the last meeting of the Exeter Insurance Committee it was reported that 2500 persons had not selected a "panel doctor," when one of the committee remarked that "they would never do so."

VITAL STATISTICS OF BERMUDA.

ACCORDING to the Blue-book of Bermuda, just received at the Colonial Office, the resident civilian population is estimated at 19,935 persons—viz., 7060 white and 12,875 coloured. The birth-rate in the year 1913 was 31·25 (22·37 per 1000 white and 36·11 per 1000 coloured), and the death-rate 16·25 per 1000. The infants registered as born out of wedlock were in the proportion of 15·3 per 100 births (2·9 white and 19·6 coloured). The European infantile mortality per 100 living births was 11·2, the lowest rate for many years. The coloured rate also showed a marked decrease, being 16·3 per cent., as against 30·6 in 1910, 30·55 in 1911, and 20·0 in 1912. The deaths of children under 5 years of age formed 37·3 per cent. of the total deaths, excluding stillbirths, as compared with 47·8 in 1911 and 40·8 in 1912. Comparing white and coloured children under 5 years, the death-rate per 100 living births was 12·7 for white and 21·7 for coloured, as compared with 15·0 and 23·9 per cent. respectively in 1912. The deaths from cancer numbered 13 (5 white and 8 coloured), equivalent to a rate of 0·65 per 1000. The total rainfall in 1913 was 49·98 inches. There is no hospital maintained by the Colonial Government, but during 1912 an Act was passed outlining the building of a general hospital to be known as the King Edward VII. Memorial Hospital. The erection of the building has been commenced, and it is expected that a portion of it will be ready for use in 1915. There is a cottage hospital near the city of Hamilton which is supported by voluntary contributions, and hospitals are also maintained in connexion with the Imperial naval and military establishments. In the lunatic asylum there were at the end of the year 67 patients. The number of tourists arriving in the colony in 1913 was 21,595.

THE THERAPEUTIC VALUE OF THE POTATO.

To the Editor of THE LANCET.

SIR,—In the memorandum from the Government referring to the shortage of certain drugs, with suggestions for economy, I note that, under the "Salicylate Group," it is suggested that in "many conditions loosely termed 'rheumatic' other drugs and measures be employed." Will you allow me to draw the attention of the profession to the preparations of the potato which will give speedy relief in these conditions? The reports which I have received from all parts fully bear out the results I gave in your issue of April 11th last. The directions for treatment are given in that number of THE LANCET and also in the pamphlet on the Therapeutic Value of the Potato, published by Baillière, Tindall and Cox.—I am, Sir, yours faithfully,

HEATON C. HOWARD.

Nottingham-place, W., Sept. 7th, 1914.

VITAL STATISTICS OF ROME.

THE British Consul (Mr. C. C. Morgan) mentions in his annual report that the population of Rome at the end of 1913 was returned at 596,463, this total including the garrison and the fluctuating population. There were during the year 15,122 births and 10,203 deaths, included in the latter being 3148 children under 5. The principal causes of death were: Pneumonia, 1404; enteritis, 977; consumption, 917; heart disease, 524; arterio-sclerosis, 484; nephritis 430; measles, 269; typhoid fever, 153; diphtheria, 63; and scarlet fever, 23.

WATERS OF TREBIZOND.

IN a report on the affairs of the Turkish vilayet of Trebizond Mr. Satow, the British Consul, mentions that there is a spring at Kissarna, near the capital of the vilayet, of which the water is bottled and sold both locally and at Constantinople. It is a pleasant table water and has digestive properties. There is also a very similar spring near Surmeneh, which is also exploited in a small way. There are hot mineral baths (sulphur) three hours south of Bolaman, which are resorted to in the months of May and June by the people of the locality.

A FRENCH PHRASE-BOOK FOR NURSES.

A CONVENIENT little pamphlet of Useful French Phrases for Red Cross Work, for nurses, dressers, and other ambulance workers, can be had free on application to Hugo's Language Institute, 64 and 66 Oxford-street, 33 Gracechurch-street, and 205 Earl's Court-road. It contains some ordinary nursing questions and instructions, the names of the parts of the body, bandages, instruments, &c., with a phonetic rendering of the phrases which, if it fails to ensure an elegant French accent, would, if carefully followed, be undoubtedly intelligible to a Frenchman.

M. A. T.—There are fairly good openings for women dispensers with the necessary qualifications. Since the Insurance Act came into force medical men have to a large extent been relieved of the work of dispensing, and therefore a position as a doctor's dispenser is difficult to get. But in the pharmacies of panel chemists and in public institutions women pharmacists are sometimes employed and are paid fair salaries. There is an association of women pharmacists with headquarters at Gordon Hall, Gordon-square, London, W.C., and women who think of adopting pharmacy as a career would be well advised to communicate with the honorary secretary.

J. MacA.—The Scottish Branch of the British Red Cross Society has its headquarters at 137, Sauchiehall-street, Glasgow. The country has been divided into four districts—the Western, Eastern, Central Eastern, and North-Eastern. The first includes Glasgow, the second Edinburgh, the third Dundee, and the fourth Aberdeen. The headquarters at Edinburgh are at 2, Frederick-street.

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

The following magazines, journals, &c., have been received:—The British Temperance Advocate, Peru To-day, Quarterly Review, Review of Neurology and Psychiatry, Monthly Cyclopedia and Medical Bulletin, Nordiskt Medicinisk Arkiv, Journal of State Medicine, Canadian Journal of Medicine and Surgery, Archives of Internal Medicine, Sanitary Record and Municipal Engineering, Scientific American, The Post Graduate, Nederlandsch Tijdschrift voor Geneeskunde, &c.

Medical Diary for the ensuing Week.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

POST-GRADUATE COLLEGE, West London Hospital, Hammersmith-road, W.

MONDAY.—10 A.M., Dr. Simson: Diseases of Women. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. T. Gray: Operations. Dr. Pritchard: Bacterial Therapy Department. Mr. B. Harman and Mr. Gibb: Diseases of the Eye.

TUESDAY.—10 A.M., Dr. Simson: Gynæcological Operations. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Baldwin: Operations. Dr. Davis: Diseases of the Throat, Nose, and Ear. Dr. Pernet: Diseases of the Skin.

WEDNESDAY.—10 A.M., Dr. Saunders: Diseases of Children. Dr. Davis: Operations of the Throat, Nose, and Ear. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Souttar: Operations. Dr. Simson: Diseases of Women. Mr. Gibb: Diseases of the Eye.

THURSDAY.—9 A.M., Dr. Bernstein: Bacterial Therapy Department. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. T. Gray: Operations. Mr. B. Harman: Diseases of the Eye.

FRIDAY.—10 A.M., Dr. Simson: Gynæcological Operations. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Baldwin: Operations. Dr. Davis: Diseases of the Throat, Nose, and Ear. Dr. Pernet: Diseases of the Skin.

SATURDAY.—10 A.M., Dr. Saunders: Diseases of Children. Dr. Davis: Operations of the Throat, Nose, and Ear. Mr. B. Harman: Eye Operations. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Souttar: Operations.

LONDON HOSPITAL MEDICAL COLLEGE (UNIVERSITY OF LONDON), London Hospital, Mile End-road, E.

Demonstrations in Clinical Medicine:—

MONDAY.—2.15 P.M., Dr. Wall: Pulmonary Tuberculosis. (Clinical Theatre.)

TUESDAY.—2.15 P.M., Dr. Grünbaum: Diseases of the Blood. (Clinical Theatre.)

WEDNESDAY.—2.15 P.M., Dr. Miller: Abdominal Diseases. (Out-patient Department.)

THURSDAY.—2.15 P.M., Dr. Thompson: Diseases of the Nervous System. (Clinical Theatre.)

FRIDAY.—2.15 P.M., Dr. L. Smith: Common Cardiac Conditions. (Clinical Theatre.)

SATURDAY.—10.15 A.M., Dr. Hutchison: Demonstrations on Selected Cases. (Wards or Clinical Theatre.)

Demonstrations on Selected Surgical Cases and on Cases of Interest in the Wards of the Hospital:—

MONDAY.—2 P.M., Mr. Milne.

TUESDAY.—2 P.M., Mr. Lett.

WEDNESDAY.—2 P.M., Mr. Howard.

THURSDAY.—2 P.M., Mr. Warren.

FRIDAY.—2 P.M., Mr. Walton.

THE THROAT HOSPITAL, Golden-square, W.

MONDAY.—5.15 P.M., Special Demonstration of Selected Cases.

THURSDAY.—5.15 P.M., Clinical Lecture.

ROTUNDA HOSPITAL POST-GRADUATE COURSES, Dublin.

MONDAY.—10 A.M., Obstetrical Lecture: Antepartum Hæmorrhage. 11 A.M., Examination of Patients and Minor Operations.

TUESDAY.—10 A.M., Major Operations.

WEDNESDAY.—10 A.M., Obstetrical Lecture: Antepartum Hæmorrhage (continued). 11 A.M., Examination of Patients and Minor Operations.

THURSDAY.—10 A.M., Major Operations.

FRIDAY.—10 A.M., Gynæcological Lecture: Pelvic Infection 11 A.M., Examination of Patients and Minor Operations.

For further particulars of the above Lectures, &c., see Advertisement Pages.

EDITORIAL NOTICES.

IT is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITOR," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention should be given to this notice.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this office.

Lectures, original articles, and reports should be written on one side of the paper only, AND WHEN ACCOMPANIED BY BLOCKS IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers—not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale, and advertising departments of THE LANCET *should be addressed "To the Manager."*

We cannot undertake to return MSS. not used.

MANAGER'S NOTICES.

THE INDEX TO THE LANCET.

THE Index and Title-page to Vol. I. of 1914, which was completed with the issue of June 27th, were given in THE LANCET of July 4th.

VOLUMES AND CASES.

VOLUMES for the first half of the year 1914 are now ready. Bound in cloth, gilt lettered, price 16*s.* carriage extra.

Cases for binding the half-year's numbers are also ready. Cloth, gilt lettered, price 2*s.*, by post 2*s.* 3*d.*

To be obtained on application to the Manager, accompanied by remittance.

TO SUBSCRIBERS.

WILL Subscribers please note that only those subscriptions which are sent direct to the Proprietors of THE LANCET at their Offices, 423, Strand, London, W.C., are dealt with by them? Subscriptions paid to London or to local newsagents (with none of whom have the Proprietors any connexion whatever) do not reach THE LANCET Offices, and consequently inquiries concerning missing copies, &c., should be sent to the Agent to whom the subscription is paid, and *not* to THE LANCET Offices.

Subscribers, by sending their subscriptions direct to THE LANCET Offices, will ensure regularity in the despatch of their Journals and an earlier delivery than the majority of Agents are able to effect.

THE COLONIAL AND FOREIGN EDITION (printed on thin paper) is published in time to catch the weekly Friday mails to all parts of the world.

The rates of subscriptions, post free from THE LANCET Offices, have been reduced, and are now as follows:—

FOR THE UNITED KINGDOM.		TO THE COLONIES AND ABROAD.	
One Year	£1 1 0	One Year	£1 5 0
Six Months	0 12 6	Six Months	0 14 0
Three Months	0 6 6	Three Months	0 7 0

(The rate for the United Kingdom will apply also to Medical Subordinates in India whose rates of pay, including allowances, is less than Rs.50 per month.)

Subscriptions (which may commence at any time) are payable in advance. Cheques and Post Office Orders (crossed "London County and Westminster Bank, Covent Garden Branch") should be made payable to the Manager, Mr. CHARLES GOOD, THE LANCET Offices, 423, Strand, London, W.C.

TO COLONIAL AND FOREIGN SUBSCRIBERS.

SUBSCRIBERS ABROAD ARE PARTICULARLY REQUESTED TO NOTE THE RATES OF SUBSCRIPTIONS GIVEN ABOVE.

The Manager will be pleased to forward copies direct from the Offices to places abroad at the above rates, whatever be the weight of any of the copies so supplied.

SOLE AGENTS FOR AMERICA—MESSRS. WILLIAM WOOD AND CO., 51, Fifth Avenue, New York, U.S.A.

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, Sept. 9th, 1914.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Rainfall.	Solar Radio in Vacuo.	Maximum Temp. Shade.	Min. Temp.	Wet Bulb.	Dry Bulb.	Remarks.
Sept. 3	30·22	S.	...	117	78	58	58	58	Fine
,, 4	30·11	E.	...	112	77	58	59	64	Fine
,, 5	30·11	E.	...	108	67	60	56	62	Overcast
,, 6	30·26	E.	...	121	71	61	60	63	Fine
,, 7	30·17	S.E.	...	113	79	61	59	62	Fine
,, 8	29·90	S.E.	...	121	77	62	66	69	Hazy
,, 9	29·84	S.W.	...	121	78	62	62	66	Overcast

Communications, Letters, &c., have been received from—

A.—Australian Book Co., Lond.; Dr. M. H. Archibald, Derby; Mr. R. J. Albery, Lond.; Mr. B. Arnold, Lond.; American Medical Association, Chicago.

B.—Fleet-Surgeon P. H. Boyden, R.N., Lond.; Bristol Royal Infirmary, Secretary of; Bombay, Executive Health Officer of; Birmingham Corporation Sanatorium, Little Bromwich, Medical Superintendent of; Board of Agriculture and Fisheries, Lond.; Messrs. C. Birchall, Liverpool; Messrs. B. J. Burrow and Co., Cheltenham; Dr. R. Burnet, Lond.; Dr. S. Barwise, Derby; Brentford Union, Clerk to the; Messrs. T. B. Browne, Lond.; Messrs. R. and J. Beck, Lond.; Messrs. Burroughs Wellcome and Co., Lond.; Birmingham and Midland Hospital for Skin, &c., Diseases, Secretary of; Dr. W. Broughton-Alcock, Lond.; Dr. W. N. Barron, Lond.

C.—Major W. S. Crosthwait, R.A.M.C., Bognor; Cheltenham General Hospital, Secretary of; Mr. F. W. Clarke, Chorlton-cum-Hardy; Chicago School of Sanitary Instruction, Chicago; Messrs. J. and A. Churchill, Lond.; Chelsea Guardians, Clerk to the; Cheshire County Council, Chester, Medical Officer of; Camberwell Guardians, Clerk to the; Messrs. Corbyn, Stacey, and Co., Lond.; Crichton Royal, Dumfries, Medical Superintendent of; Sir John Collie, Lond.; Dr. John Campbell, Belfast; Clement Talbot, Ltd., Lond.

D.—Duchess of Westminster's War Hospital, Lond., Hon. Secretary of; Devonshire Hospital, Buxton, Secretary of; Captain A. H. T. Davis, R.A.M.C., Lond.; Messrs. Duncan, Flockhart and Co., Edinburgh; Derbyshire Children's Hospital, Derby, Secretary of; Lieutenant-Colonel B. Doyle, I.M.S., Rossiare; Messrs. W. Dawson and Sons, Lond.; Dunlop Rubber Co., Lond.; Dr. Vincent Dickinson, Lond.; Lieutenant-Colonel A. M. Davies, R.A.M.C., Lond.; Mr. A. Victor Dyer, Blackpool.

E.—Messrs. Elliott, Son, and Boyton, Lond.; Messrs. Eyre and Spottiswoode, Lond.; Lieutenant-Colonel R. H. Elliot, I.M.S., Lond.; Dr. R. C. T. Evans, Herne Bay.

F.—Mr. David Fyfe, Glasgow; Messrs. Fannin and Co., Dublin; Dr. M. B. Foster, Lond.; Dr. L. Forster, Lesbury; Mr. A. Foerster, Lond.; Sir Joseph Fayrer, Bart., Edinburgh; Dr. Leonard Findlay, Glasgow.

G.—Mr. J. A. Granda, Lima; Miss A. D. Gilfillan, Falkirk; Messrs. A. H. Grantham and Co., Reading; Government Committee on the Prevention and Relief of Distress, Lond., Secretary to the; Dr. H. M. W. Gray, Aberdeen; Glasgow Royal Infirmary, Secretary of.

H.—Hugo's Language Institute, Lond.; Holborn Surgical Instrument Co., Lond.; Messrs. C. J. Hewlett and Son, Lond.; Mr. C. A. Hoefftcke, Lond.; Hull Royal Infirmary, Secretary of; Dr. E. Hobhouse, Grantown-on-Spey; Mr. J. W. Hayes, Lond.; Dr. A. J. Hesterlow, Lond.; Messrs. Hoffmann-La Roche Chemical Works, Lond.; H. M.; Captain W. J. Harnett, I.M.S., Bengal.

J.—Jenny Lind Infirmary for Children, Norwich, Secretary of; Mr. T. R. Judson, Reigate.

K.—Messrs. H. S. King and Co., Lond.; Kent County Asylum, Maidstone, Clerk to the; K. L. S.; Surgeon W. H. King, R.N., Deal.

L.—Dr. J. Roche Lynch, Lond.; Lieutenant-Colonel E. Le Cronier Lancaster, R.A.M.C., Swansea; Mr. H. K. Lewis, Lond.; Leeds Public Dispensary, Secretary of; Mr. A. H. Lynn, Lond.; Mr. F. Light, Lond.; Mr. O. Long, Tobaccoville, U.S.A.; Messrs. Lee and Nightingale, Liverpool; Dr. M. C. S. Lawrance, Barlstown; Dr. Thomas Lewis, Lond.; Dr. J. C. G. Ledingham, Lond.; Local Government Board, Lond., Medical Officer of.

M.—Dr. A. Maude, Forest Row; *Midland Counties Herald*, Birmingham, Proprietors of; Messrs. J. Menzies and Co., Edinburgh; Dr. G. N. Meachen, Worthing; Messrs. C. Mitchell and Co., Lond.; Mr. J. Murray, Lond.; Manchester Royal Eye Hospital; Dr. R. R. G. Markham, Burnley; Maltine Manufacturing Co., Lond.; Mr. R. Mosse, Zürich; Dr. I. B. Muirhead, Lond.; Sir William Milligan, Manchester; Captain John Furse McMillan, R.A.M.C. (retired), Sandown.

N.—Nottingham City Asylum, Clerk to the; North Devon Infirmary, Barnstaple, Secretary of; North British Rubber Co., Edinburgh; City of New York, Department of Health; *The Nursing Times*, Lond., Editor of; Norwood Sanatorium, Beckenham, Secretary of; National Medical Union, Lond., Hon. Secretary of; National Health Insurance Commission (England), Lond.

P.—Mr. F. R. Price, Lond.; The Press Bureau, Lond., Secretary of; Mr. L. A. Parry, Hove; Prudential Assurance Co. of America, Newark, U.S.A.

Q.—Queen Charlotte's Lying-in Hospital, Lond., Secretary of; Messrs. Quibell Bros., Newark.

R.—Royal Sanitary Institute, Lond., Secretary of; Rochester and Chatham Printing Co.; Dr. C. W. Richardson, Washington; Royal Institute of Public Health, Lond., Secretary of; Dr. C. G. Roehr, Fort Pierce, Florida; Mr. J. T. Reade, Belfast; Richmond Gas Stove and Meter Co., Lond.; Royal Albert Hospital, Devonport, Secretary of; Royal Devon and Exeter Hospital, Secretary of; Messrs. Richardson and Co., Lond.; Messrs. Readman and Gemmett, Edinburgh; Rotunda Hospital, Dublin.

S.—St. Thomas's Hospital Medical School, Lond., Secretary of; Sheffield University, Registrar of; Sheffield Children's Hospital, Secretary of; Stockton and Thornaby Hospital, Stockton-on-Tees, Secretary of; St. George's Retreat, Burgess Hill, Superioress of; Society of Apothecaries of London, Secretary of; Messrs. Strachan, Oswell, and Co., Lond.; Dr. M. D. Staunton, Swinford; Dr. A. W. Smith, Harrogate; Messrs. Spiers and Pond, Lond.; Messrs. G. Street and Co., Lond.; Mr. W. B. Saw, Lond.; Surgical Manufacturing Co., Lond.; South-West London Medical Society, Hon. Secretary of; Scottish Medical Service Emergency Committee, Edinburgh, Convener of; St. Mary's Hospital Medical School, Lond.; Lieutenant-Colonel J. W. Smith, R.A.M.C., Manchester; Dr. J. P. Steele, Florence; Sanitas Co., Lond., Assistant Managing Director of.

T.—Tunbridge Wells General Hospital, Secretary of; T. W. T.; Temperance Association of Male Nurses, Lond., Secretary of; Miss M. A. Turner, Tetbury; Mr. J. G. Turner, Lond.

V.—Victoria Children's Hospital, Hull, Secretary of; Messrs. Van Houten, Lond.

W.—Wolverhampton General Hospital, Secretary of; Messrs. J. Woodhead and Sons, Huddersfield; Messrs. Willing, Lond.; Mr. E. S. Weymouth, Lond.; Warrington Infirmary and Dispensary, Secretary of; Whitehaven and West Cumberland Infirmary, Secretary of; Dr. D. P. D. Wilkie, Portsmouth; Dr. G. T. Wrench, Mussoorie; Messrs. Whiffen and Sons, Lond.; Walsall and District Hospital, Secretary of; Dr. Norman Walker, Edinburgh; West London Post-Graduate College, Lond.; Dean of.

Y.—York, Tuberculosis Officer of.

Letters, each with enclosure, are also acknowledged from—

A.—Mr. A. L. Anthony, Gravesend.

B.—Mr. W. R. Bristow, Lond.; Messrs. W. H. Bailey and Son, Lond.; Dr. J. Biernacki, Lond.; Blackburn Infirmary, Secretary of; Mr. J. Beckton, Lond.; Bristol City, Accountant to the; Belfast Corporation, Chamberlain to the; Miss Bertie, Lond.; Mr. Cyril Bain, Harrogate; Dr. F. A. Brooks, Felixstowe.

C.—Dr. W. S. Carroll, Trehafod; Messrs. T. Christy and Co., Lond.; Cheshire Education Committee, Chester, Secretary of; Dr. R. Craven, Wigton; Canning Town Women's Settlement, Secretary of; Mr. W. Carter, Lond.

D.—Mr. D. Davies, Llangeitho.

E.—Dr. W. Ettles, Lond.

F.—Dr. W. Fletcher, Kuala Lumpur, Federated Malay States.

G.—Dr. E. B. Gunson, Lond.; Dr. W. Greig, Wakefield; Great Yarmouth Hospital, Secretary of; Glasgow Corporation, Treasurer to the; Messrs. Gordon and Gotch, Lond.

H.—Mr. W. Heinemann, Lond.; Messrs. C. Hearson and Co., Lond.; H. H. F.; Hants County Asylum, Fareham, Clerk to the; Dr. A. F. Hewat, Edinburgh; Messrs. John Heywood, Manchester; H. D. M.; H. E. S. R.

I.—*Interstate Medical Journal*, St. Louis, U.S.A.

J.—Messrs. Walter Judd, Lond.

K.—Messrs. Keith and Co., Edinburgh; Dr. B. L. Kalra, Dholpur, India.

L.—Mr. T. S. Logan, Stone; London Press Exchange, Lond.; Lancashire County Asylum, Winwick, Clerk to.

M.—Dr. D. McKenzie, Lond.; Dr. E. S. Maddox, Bournemouth; Manchester Guardians, Clerk to the; Mr. J. E. May, Lond.; Matthew's Advertising Service, Lond.; Male Nurses' Temperance Co-operation, Lond., Secretary of.

N.—Mr. A. Newton, Lond.

O.—Dr. J. A. Ormerod, Lond.; Oxford City, Accountant of.

P.—Mr. D'Arcy Power, Lond.; Mr. F. C. Pybus, Newcastle-on-Tyne.

R.—Reuter's Telegram Co., Lond.; Royal Buckinghamshire Hospital, Aylesbury, Secretary of.

S.—Miss Shortridge, Surbiton; Shaftesbury House, Formby, Secretary of; St. Mary (Islington) Guardians, Clerk to the; Dr. W. M. Scott, Liverpool; Dr. G. I. T. Stewart, Ipswich; Messrs. Sifton, Praed, and Co., Lond.

T.—Dr. C. V. Thornton, Lond.; Mr. A. Tyer, Lond.; Dr. J. Thomarson, Yarmouth, Isle of Wight.

W.—Dr. D. Watson, Glasgow; Messrs. F. Williams and Co., Lond.; W. S. W.; West Ham Hospital, Secretary of; Mr. J. W. Thomson Walker, Lond.

EVERY FRIDAY.

THE LANCET.

PRICE SIXPENCE.

SUBSCRIPTION, POST FREE.

FOR THE UNITED KINGDOM.*		TO THE COLONIES and ABROAD.	
One Year	£1 1 0	One Year	£1 5 0
Six Months	0 12 6	Six Months	0 14 0
Three Months	0 6 6	Three Months	0 7 0

* *The same rate applies to Medical Subordinates in India.*

Subscriptions (which may commence at any time) are payable in advance.

ADVERTISING.

Books and Publications	Five Lines and under	£0 4 0
Official and General Announcements		
Trade and Miscellaneous Advertisements and Situations Vacant ...	Every additional Line	0 0 6

Situations wanted: First 30 words, 2s. 6d.; per additional 8 words, 6d.

Quarter Page, £1 10s. Half a Page, £2 15s. An Entire Page, £5 5s.

Special terms for Position Pages.

An original and novel feature of "THE LANCET General Advertiser" is a Special Index to Advertisements on pages 2 and 4, which not only affords a ready means of finding any notice but is in itself an *additional* advertisement.

Advertisements (to insure insertion the same week) should be delivered at the Office not later than Wednesday, accompanied by a remittance.

Answers are now received at this Office, by special arrangement, to advertisements appearing in THE LANCET.

The Manager cannot hold himself responsible for the return of testimonials, &c., sent to the Office in reply to advertisements; copies only should be forwarded.

Cheques and Post Office Orders (crossed "London County & Westminster Bank, Covent Garden Branch") should be made payable to the Manager, Mr. CHARLES GOOD, THE LANCET Office, 423, Strand, London, to whom all letters relating to advertisements or subscriptions should be addressed.

THE LANCET can be obtained at all Messrs. W. H. Smith and Son's and other Railway Bookstalls throughout the United Kingdom. Advertisements are also received by them and all other Advertising Agents.